

**THE COLLECTIVE IDENTITY OF SOCIAL CLASS:  
A SOCIAL-PSYCHOLOGICAL PERSPECTIVE ON  
SOCIOECONOMIC STATUS AND  
POSTSECONDARY ACHIEVEMENT**

by

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A thesis submitted to  
the Faculty of Graduate and Postdoctoral Affairs  
in partial fulfilment of the requirements for the degree of

Doctor of Philosophy

in

Psychology

Carleton University  
Ottawa, Canada

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Ottawa ON K1A 0N4  
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*Your file Votre référence*  
ISBN: 978-0-494-79619-1  
*Our file Notre référence*  
ISBN: 978-0-494-79619-1

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ABSTRACT

The purpose of this study was to investigate psychological class identification as a possible mediator in the association between socioeconomic status and achievement. Researchers in sociology and education have found that people who identify with a “lower” social class may experience feelings of exclusion, shame and inauthenticity in relation to higher education, and that these feelings can affect their educational choices and achievement. However, psychologists interested in identity and achievement have devoted little attention to socioeconomic status or social class.

To address this gap, I developed the Collective Identity of Social Class (CISC) scale to measure psychological class identification. In Study 1, an exploratory factor analysis produced a solution with four interrelated factors: (1) *Attachment and Embeddeness*, (2) *Certainty of Self-categorization*, (3) *Saliency and Importance*, and (4) *Mutual Fate*. The CISC’s factors are similar to factors that represent identification with other natural social groups. Interestingly, CISC scores were not associated with beliefs in meritocracy, indicating that psychological class identity differs from some sociological conceptions of social class.

In Study 2, I used structural equation modelling to examine the role of class identity, academic self-concept, student engagement, and high school average in mediating the influence of socioeconomic status on university grades. The model predicted 28% of the variance in GPA. As expected, high school average and academic self-concept had a positive influence on GPA. SES had complex influences on GPA, consisting of a negative direct effect and positive indirect effects. Engagement had no effect on GPA. For working-class students, class identity had an unexpectedly positive

direct effect on GPA, but did not affect engagement or academic self-concept. For middle-class students, class identity had a positive effect on engagement, but no effect on GPA or academic self-concept.

I discuss these findings in relation to the literature on social identity, academic self-concept and student engagement, and I argue that there is a need to test models that include the effects of both academic self-conceptions and student engagement. Overall, the collective identity of social class is a promising measure that brings much-needed social-psychological attention to socioeconomic status and class identity.

**Keywords:** social class, social identity, socioeconomic class attitudes, academic self concept, student engagement, college students, college academic achievement

## ACKNOWLEDGEMENTS

First and foremost, I would like to thank Dr. Timothy Pychyl. Tim has been a mentor to me throughout my studies. His dedication and integrity as both a teacher and researcher have been an inspiration and example that always made me want to be a better academic. It was a privilege to hone my skills and ideas with his support.

I would like to thank my examiners for their careful reading and for their thoughtful questions and comments. Thanks to them, defending my dissertation research was an enriching experience that left me eager to continue my exploration of these ideas.

I could not have completed this degree without the support of my employers at Carleton University and my colleagues at the Centre for Initiatives in Education, who allowed me the flexibility to pursue both my academic and my professional passions.

I have learned a lot from fellow students over the years, but none comes close to Mohsen Haghbin, whose expertise, generosity, and friendship I simply couldn't have done without.

This work is dedicated to my parents. In their very different ways, they both taught me that I was good enough to be anything I wanted, and that anything I wanted to be was good enough.

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## INTRODUCTION

Psychologists clearly acknowledge the importance of sociocultural factors such as race, gender and class in shaping many aspects of human experience. Yet, despite conducting research on race, gender and some other aspects of diversity, psychologists have contributed far less when it comes to understanding the psychological implications of class and socioeconomic status (e.g., Frable, 1997; Heppner & Scott, 2004; Lott & Maluso, 1999; Whiston & Keller, 2004). This silence is especially surprising in relation to research on academic achievement, where the association with socioeconomic status has been well-established for decades (e.g., McLoyd, 1998; Sirin, 2005; White, 1982; Wright & Bean, 1974). My research helps to address this gap by examining the relation between socioeconomic status, social class and postsecondary achievement from a social-psychological perspective.

In my dissertation, I explored current research about the influence of socioeconomic status and social class on postsecondary outcomes. I examined sociological conceptions of social-class identity and argued that adding a social-psychological perspective on class identification could enrich our understanding of how socioeconomic status and social class influence postsecondary achievement. Using social-psychological theories of collective identity, I re-conceptualized class identity and developed a scale to operationalize and measure this new construct, which I call the collective identity of social class.

In order to develop a more comprehensive mediational model, I also examined two other psychological factors thought to influence postsecondary achievement – academic self-concept and student engagement. I reviewed research on the relation

between SES and these predictors and explored how they might intersect with social class and class identity in predicting postsecondary achievement. Ultimately, I developed and tested a model of these relations.

In Chapter 1, I describe how socioeconomic status directly shapes the educational environments, expectations and opportunities to which youth are exposed. Lower parental income, occupational status and especially educational attainment are all associated with a decreased likelihood of participating, persisting and succeeding in postsecondary education (Butlin, 2000; De Broucker & Lavallé, 1998; Knighton & Mirza, 2002; Pascarella & Terenzini, 2005). Thus, socioeconomic status can influence postsecondary achievement directly, by limiting access to material and non-material resources that are educationally advantageous.

In Chapter 2, I develop the idea that SES can also influence achievement indirectly, via its effects on social-class identity. The nature, existence and measurement of social classes and class identity are contentious topics in sociology (Crompton, 1993; Rose, 1998). Nevertheless, research in several fields has documented dissimilar experiences for working- and middle-class people in relation to higher education. Whereas middle-class youth typically experience university as part of the normal transition to adulthood (London, 1989; Reay, David, & Ball, 2005), working-class youth often struggle to reconcile their desires for upward mobility with a sense of self that was shaped in a different class environment (e.g., Bowl, 2003; Ross, 1995). To add to this mostly qualitative literature, I draw on social-psychological theories of collective identity (Tajfel, 1981; Turner, 1999) to develop a new construct, the collective identity of social class. Guided by narrative reviews (e.g., Ashmore, Deaux, & McLaughlin-Volpe, 2004),

and factor-analytic studies (e.g., Cameron, 2004) of collective identity, I offer a detailed analysis anticipating the content and structure of the collective identity of social class.

Acknowledging other key predictors of postsecondary achievement, in Chapters 3 and 4 I suggest that academic self-concept and student engagement may also mediate the relation between socioeconomic status and university achievement. Academic self-concept is a set of evaluative beliefs about one's academic abilities and characteristics. Like SES, academic self-concept has a well-established influence on academic achievement (e.g., Marsh, 1993a; Reynolds, 1988). However, the nature of the relation between SES, academic self-concept and achievement is unclear.

Whereas academic self-concept and class identity emphasize how students' self-beliefs can influence their sense of belonging and ability to achieve in university, student engagement is a more behavioural construct. As I explain in Chapter 4, engagement refers to students' involvement in various academic and social practices that have a positive effect on postsecondary outcomes (e.g., Kuh, Kinzie, Cruce, & Gonyea, 2006). The engagement literature has not focused on SES or class differences, but the field's most prominent models (Astin, 1993; Bean & Metzner, 1985; Tinto, 1993) all assume that students' background characteristics influence engagement. In addition, research on intellectually stigmatized and stereotyped groups (e.g., Croizet & Claire, 1998; Van Laar & Derks, 2003) suggests that low-SES students may disengage from education both psychologically and behaviourally, with negative achievement outcomes. However, research linking SES differences to engagement and achievement is limited and the findings are contradictory (Grayson, 1997; Pascarella, Pierson, Wolniak, & Terenzini, 2004).

In Chapter 5, I draw all of the preceding work together with a summary of my arguments and an outline of the rationale for a structural model in which class identity, academic self-concept and student engagement, as well as prior academic achievement, together mediate the influence of socioeconomic status on university grades. I propose that socioeconomic status influences grades directly, as well as indirectly through students' prior achievement and class identity. I also propose that class identity has both a direct effect on grades, and an indirect effect that is mediated by academic self-concept and student engagement. Throughout this chapter, I highlight the different strength or direction of effects that I anticipate for working- versus middle-class students.

In Chapter 6, I present Study 1, in which I used exploratory factor analysis to determine the structure and content of the Collective Identity of Social Class Scale. The results indicate that class identity is a multidimensional construct with four factors, which I named *Attachment and Embeddeness*, *Certainty of Self-categorization*, *Salience and Importance*, and *Mutual Fate*.

Having established the scale, in Chapter 7 I present Study 2, in which I used structural equation modeling to test the relations proposed in my model. In the first stage of this study, I used confirmatory factor analysis to refine the scale and verify its four-factor structure. In the second stage of this study, I tested the structural model. The results indicated a surprising degree of similarity between working- and middle-class participants given what my literature review had led me to expect. For example, the relations among academic self-concept, student engagement, and grades differed little across classes. However, tests of the structural model also revealed both expected and

unexpected differences between working- and middle-class participants, particularly with respect to class identity and its influence on academic outcomes.

In the final chapter, I discuss my findings in the context of recent research that emphasizes the strengths and values that working-class university students bring to their studies (Lehmann, 2009a; Reay, Crozier, & Clayton, 2009; Stuber, 2006). In addition, I suggest that some of the unexpected findings in this research are understandable when viewed through the lens of the particular institutional and national context in which my research was conducted. The dissertation ends with a consideration of the limitations of my research as well as directions for future study.

## CHAPTER 1

## SOCIOECONOMIC STATUS, SOCIAL CLASS AND EDUCATION

The association between socioeconomic status, social class, and education has long been a central concern in the sociology of education (e.g., Nash, 2002) and in developmental psychology (e.g., McLoyd, 1998). In this chapter, I review research demonstrating that lower socioeconomic status and social class are associated with lower academic achievement, focusing especially on postsecondary access and success.

Much of this research is correlational, focused on decomposing the relative influence of parental income, education, and occupational status. However, various ideas have been proposed to explain the mechanisms linking postsecondary outcomes and socioeconomic status. I discuss research that describes how the expectations, values and practices of people from different socioeconomic backgrounds affect their children's educational choices and outcomes. I also discuss the notion that parents' income, occupational status, and education are transformed into resources—economic, social and cultural capital—that influence the likelihood of their children attending and succeeding in university.

Surprisingly, very little research has addressed psychological mechanisms that might explain the association between socioeconomic status and postsecondary achievement. I introduce the idea that the subjective, psychological interpretation of one's socioeconomic position is worth investigating as one such mechanism.

However, before this possibility can be fully explored, it is important to be explicit about the type of socioeconomic difference under investigation. Therefore, I briefly describe two major perspectives on socioeconomic difference: socioeconomic

status and social class. A key difference between them is that the social-class perspective implies group membership, which can be a source of self-identity. I discuss some of the conceptual and measurement challenges involved in class-identity research, and suggest that psychologists could contribute a new approach to understanding class identity.

*Social Class, Socioeconomic Status and Higher Education: Correlates of Educational Choice, Performance, and Attainment*

In modern, post-industrial societies, options after the completion of high school include employment, job-related training, college, or university.<sup>1</sup> The choice that individuals make depends in large measure on the income, occupation, and education of their parents. Parental income has received a lot of attention in the educational choice literature. In Canada, 70% of children from families in the top quintile of after-tax income participate in postsecondary education, compared to only 56% of children from families in the bottom quintile. Moreover, young Canadians in the top quintile are more than twice as likely to choose university over college (39%) as those in the bottom quintile (17%) (Knighton & Mirza, 2002). In the United States, among families with an income less than \$25,000, fewer than half of high school graduates attend university, and almost 25% get no postsecondary education at all. Among families with an income of more than \$75,000, more than 83% of children enrol in university, and only 4% obtain no postsecondary education (Congressional Advisory Committee on Student Financial Assistance, 2003, cited in Kirp, 2003).

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<sup>1</sup> The terminology used for postsecondary institutions differs internationally. For the sake of consistency, I use “college” to refer to vocationally oriented institutions in which most programs are 2 years or less in duration, and “university” to refer to academically oriented institutions in which most programs are at least 4 years in duration.

Parental income affects academic performance at all grade levels, so part of this difference in postsecondary participation results from low-income students' lower grades and consequently lower admissibility to university. However, even when high school grades and standardized test scores are held constant, students from low-income families still have far lower postsecondary participation rates than their higher-income counterparts (Pascarella & Terenzini, 1991).

In addition to parents' income, the social status of parents' occupations can also play a role in their children's rates of educational attainment. In one national Canadian study, father's occupational status was assigned a score from 25 (lowest) to 62 (highest). Within each level of father's education, offspring who completed more years of education had fathers with higher occupational status. For example, in the group of fathers who did not complete high school, fathers whose children did not complete high school had an average occupational status of 33, whereas fathers whose children completed university had an average occupational status of 39 (De Broucker & Lavallé, 1998).

Parental income and occupation are certainly key influences, but parental education may play an even greater role in determining postsecondary participation and attainment. A survey of 11 OECD countries found that the correlation between parents' educational attainment and that of their offspring ranges from a low of .29 (Australia) to a high of .50 (Ireland). Correlations in Canada, the U.S., and several other countries are between .40 and .43 (De Broucker & Underwood, 1998). Canadians aged 26-35 whose parents have a postsecondary education are three times as likely to earn postsecondary

credentials when compared to people whose parents do not have postsecondary education (69% versus 23%; De Broucker & Lavallé, 1998).

Research controlling for parental income and a host of other factors also indicates that parental education is a key predictor of postsecondary access and success. For example, parental education is more important than income in Canadian students' choice between college and university. Children of university-educated parents are far more likely to choose university over college (odds ratio = 3.3) when compared to children of college-educated parents (odds ratio = 1.7) or high-school educated parents (odds ratio set at 1.0). In contrast, parental income makes far less difference, with children from the highest income quartile having less elevated odds (odds ratio = 1.6) of attending university over college compared to those in the lowest income quartile (odds ratio set at 1.0; Knighton & Mirza, 2002).

Parental education also appears to be more important than income in terms of overall rates of participation in higher education. Across levels of family income, approximately 40-58% of young Canadians whose parents have no postsecondary education participate in some form of postsecondary education. In contrast, people with at least one postsecondary educated parent participate at much higher rates, ranging from 68% for those in the lowest income quartile to 78% for those in the highest income quartile. Interestingly, the poorest Canadian youths with at least one postsecondary educated parent are more likely to pursue postsecondary education than the wealthiest youths whose parents had high school education or less, 68% versus 56% (Knighton & Mirza, 2002).

Other Canadian research held constant multiple indices of students' prior school achievement, hours of employment during high school, and participation in extracurricular activities. Again, parental education was found to be the key predictor of university attendance. The findings indicated that 67% of Canadian youth with university-educated parents attend university, compared to only 43% with college-educated parents, 33% with high school educated parents, and 30% whose parents had less than high school (Butlin, 1999).

Findings are similar in the U.S. A wide-ranging literature review (Pascarella & Terenzini, 2005) concluded that four years after completing high school, American youth with at least one postsecondary educated parent are almost twice as likely to have earned a baccalaureate degree (21% versus 11%). Youth whose parents have a baccalaureate degree or higher are nearly five times as likely to have earned a baccalaureate degree (50% versus 11%) compared to youth whose parents have no postsecondary education. These differences in educational attainment exceed those explained by differential rates of postsecondary participation. In other words, among students who attempt postsecondary study, attainment rates are higher for those whose parents have more postsecondary education.

Among students who attempt postsecondary study, parental education also appears to be associated with decisions to withdraw early. For example, the national Postsecondary Leavers Survey (Butlin, 2000) indicates that Canadian students whose parents had university education were less likely to withdraw from a postsecondary program (odds ratio = .66) than those whose parents had high school or less (odds ratio set at 1.00). Pascarella and Terenzi reviewed student-withdrawal research that had

controlled for university grades, delayed enrolment, hours of employment, and aspects of parental SES other than their education. Students whose parents had no postsecondary education were more than twice as likely to withdraw before the second year of study when compared with students whose parents had some type of postsecondary education (23% versus 10%). They concluded that so-called first-generation university students are disadvantaged with respect to their chances of earning a bachelor's degree, “. . . independent of other personal characteristics and college experiences” (2005, p. 436).

In addition to the evidence that parental SES influences their children's educational choices, there is also evidence that socioeconomic inequality in educational participation is worsening over time because participation rates are increasing more slowly for low-SES people than for middle-SES people. In 1986, low-SES and middle-SES Canadian students were almost equally likely to participate in university (13.7% and 14.5% respectively). By 1994, these rates had diverged, with 18.3% of low-SES youth and 25.3% of middle-SES youth attending university. For high-SES youth, university participation increased from 33% in 1986 to 41% in 1994 (Bouchard & Zhao, 2000). Throughout the 1990s, participation rates continued to increase more slowly and even to decrease for first-generation students than for others (Finnie & Laporte, 2003). Overall, Canadian youth from lower-SES families are becoming more educationally disadvantaged relative to their higher-SES peers.

As this review suggests, there is a complex mix of variables underlying the association between socioeconomic status and postsecondary choices and outcomes. However, it is clear that socioeconomic status is an important factor influencing postsecondary educational opportunity and success. I turn now to examining some of the

mechanisms by which parents' income, occupational status, and education might influence their children's interaction with the world of postsecondary education.

*Mechanisms Linking Postsecondary Outcomes and Parental SES*

Parental SES is clearly correlated with the educational outcomes of their offspring, yet the causal mechanisms are not clearly understood. In this section, I review research that shows how parental income, occupational status, and education can determine their children's access to educationally beneficial resources. This includes material resources, but also social and cultural resources that influence the desire and ability to succeed in higher education.

Youth from low-income families have less access to many educationally beneficial resources. For example, low-income students may have less access to books, computers, travel, and other costly tools and experiences. They are also likelier to live in impoverished neighbourhoods with limited access to quality day care, schools, and other social services (DuBois, 2001; Jessor, 1993; McLoyd, 1998). Because these factors are associated with lower grades in primary and secondary school, the postsecondary options available to many low-SES students are limited.

For the low-SES students who overcome early disadvantages, graduate from high school, and qualify for university admission, affordability is an important consideration. The cost of tuition, books, living expenses, and forgone income is often prohibitive for low-income families. Statistics Canada (2006) reports that tuition increased an average of 7.7% per year between academic years 1990/1991 and 2005/2006, almost four times the average inflation rate. Rising tuition costs may have affected low-income families more

than others. By 1996-97, the average cost of tuition already represented 4.6% of an average family's annual income (Bouchard & Zhao, 2000). This obviously represents a much higher percentage for families with lower-than-average income.

Public policy has attempted to address the gap in participation rates for disadvantaged groups primarily by bringing down financial barriers. Government-sponsored loans, scholarships and bursaries are widely available and certainly have provided more access for low-SES people than would otherwise exist. However, low-income students may not always take advantage of these programs. First, low-SES students earn lower average grades in high school than other students (Sirin, 2005), therefore they are less likely to earn scholarships. Second, low-income students and their parents are more likely than higher-income Canadians to overestimate the financial costs and underestimate the financial benefits of attending university (Usher, 2005, cited in Palameta & Voyer, 2010). Finally, evidence is mounting that low-income and first-generation students and their families are more likely than others to fear indebtedness and to be averse to taking on loans to finance postsecondary study (Higginbotham & Weber, 1992; Palameta & Voyer).

Even when students' financial needs are fully met from an official point of view, financial supports may be insufficient to bridge the gap in participation. In concluding their review of more than 30 years of research on the topic, Pascarella and Terenzini (2005) asserted that financial assistance was inadequate given the "complex interaction of family-, school-, and college-related factors" that is entailed in choosing and succeeding in university education. Unmet financial need may lead low-SES students to delay entry

to university, to drop out or “stop out” from their studies, or to work longer hours during their studies (Pascarella et al., 2004), potentially limiting their educational outcomes.

In addition to financial resources, parental SES and class are associated with a set of largely non-material resources sometimes referred to as social and cultural capital. These consist of advantages such as knowledge, social connections, manners and tastes. In addition, parental expectations, values and practices regarding education and work can be considered resources. Together, these resources affect the likelihood of succeeding in university, therefore contributing to the reproduction of social status across generations (Bourdieu & Passeron, 1990; Reay et al., 2005).

For example, getting a university degree is associated with lifelong changes in a wide range of social, political, and cultural attitudes, including educational values (Pascarella & Terenzini, 2005). In research that controlled for the effects of gender, race-ethnicity, socioeconomic status, academic ability, pre-existing values, postsecondary experiences, and institutional characteristics, university graduates were nearly twice as likely to consider a good education to be “very important” (Knox et al., 1993, cited in Pascarella & Terenzini). Graduates’ occupational values also differed from those of non-graduates; they placed greater importance on the intrinsic rewards of work (e.g., autonomy, opportunity to use one’s talents, variety of tasks performed) and less importance on the extrinsic occupational rewards (e.g., earnings, status, security) that tend to be more valued by working-class people (see also Gorman, 2000; Kinloch, 1987; MacLeod, 1995). Given these findings, parents with a university degree may be likelier to inculcate the expectation and desire for further education in their children.

Because parents with a university degree value education so strongly, they typically take for granted that their children will attend university and expend considerable resources to ensure that they do. For example, they prioritize living close to “good” primary and secondary schools and provide tutoring if needed. They have greater knowledge of the postsecondary system, and provide advice, information, and often professional help with the university application process (Ball, 2003; McDonough, 1997). Even though parents who have less education may want their children to pursue further studies, they may be able to provide only general encouragement due to a lack of resources or their own inexperience with the higher-education system (Blustein et al., 2002; Choy, 2001; Lehmann, 2009a).

Parents’ occupations also influence the postsecondary paths of their offspring. Because people tend to choose spouses and friends with similar occupational status (Argyle, 1994), children of professional parents are exposed to a complete social network that takes for granted that they will aim for careers that require at least an undergraduate degree. These parents are likely to understand the steps involved in pursuing professional careers and may be able to provide social contacts that lead to enriching summer jobs or internships. In contrast, parents with lower-status jobs are unlikely to have this type of knowledge or social network. Moreover, guidance counselling in high schools tends to reinforce these differential expectations, encouraging young people to aim for occupations similar in status to those of their parents and/or peers (Andres, Anisef, Krahn, Looker, & Thiessen, 1999; McDonough, 1997).

Clearly, higher socioeconomic status can be transformed into a set of educationally advantageous resources in the form of economic, social and cultural capital

(Reay et al., 2005). Higher-SES families are more likely to value university education and prestigious careers, and tend to use money, social networks, and knowledge to ensure that their children enact these values. In short, parental expectations and practices lay the groundwork that will help determine the amount and type of education and jobs their children will pursue.

Given the centrality of education and work in daily life, surprisingly little research has addressed how psychological factors might mediate the association between socioeconomic status and postsecondary achievement. This may be related to some of the conceptual and methodological difficulties associated with studying socioeconomic status. In the next section, I discuss perspectives on social stratification and methodological challenges associated with measuring SES and class from a subjective perspective.

### *Perspectives on Social Stratification*

Virtually all societies are stratified by hierarchies of power and wealth (Seabrook, 2002). In sociology and psychology, two major perspectives on social stratification are in common use: socioeconomic status and social class. These terms are often used interchangeably in psychology, yet a closer examination reveals important differences of definition and underlying theory.

Socioeconomic status is the first approach to studying social stratification and is far more commonly used in psychological research (American Psychological Association, 2007). Socioeconomic status refers to the relative position of an individual or family in the social structure, based on differential access to economic and other

resources (Mueller & Parcel, 1981). The SES approach assumes a continuous gradient of status along which individuals or families can be located (Jackman & Jackman, 1983). Through this lens, any perceived inequality takes on an abstract and individual quality (Seabrook, 2002).

In contrast, the social-class perspective stratifies members of society into distinct social groups based on their position and power in the social and economic system. This view of stratification has origins in conflict theory, a Marxist perspective in which classes are defined by their relationship to the means of production (Jackman & Jackman, 1983). In this view, a system of organized oppression allows capitalists, who own the means of production, to exploit workers, who own only their own labour power. The economic interests of these groups are mutually opposed (i.e., greater profits versus higher wages). Thus, Higginbotham and Weber define classes as "groups set in a relation of opposition to one another by their roles in the capitalist system" (1992, p. 421).

Social class and SES are superficially similar and both are typically indexed by occupation, income, and/or education. However, the SES perspective makes no assumptions about social groups or intergroup relations. Research participants may sometimes be categorized into high-, medium-, or low-SES categories, but there is usually no suggestion that such categories refer to real social groups (Jackman & Jackman, 1983).

In the social-class view, social inequality involves more than just differential access to resources. Discrete groups (e.g., "the middle class") can be discerned, and are thought to have real meaning both for the people in these groups and for society. If individuals are aware of these groups, this implies that they act in accordance with their

group's interests (Seabrook, 2002). Thus, relations between social classes are characterized by dominance and subordination, and classes are involved in reproducing privilege across generations (American Psychological Association, 2007).

Given these important distinctions in perspective, researchers with psychological questions related to social stratification must carefully consider whether they are interested in how individuals' location on a gradient of SES affects an outcome of interest, or how their sense of belonging to a distinct social group affects that outcome. Until recently, neither of these questions had received much attention from academic psychologists (American Psychological Association, 2007).

One reason for this lack of attention may be the challenges associated with defining and measuring socioeconomic status and social class. In the next section, I review some of these challenges, particularly in the context of psychological research. I also argue that, if we wish to connect social class to psychological experiences and outcomes, it is important to consider class from the research participants' subjective perspective. Therefore, I end the chapter with a review of subjective approaches to measuring social class.

### *Measuring Social Class and Socioeconomic Status in Psychological Research*

In psychology, the naming, definition, and measurement of social class and SES have been characterized by inconsistency and inaccuracy. As Liu, Soleck, Hopps, Dunston and Pickett (2004, p. 8) argue, there appears to be "no clear theory or rationale" in how psychologists have defined social class or SES. This atheoretical approach has joined with psychology's conservatism and individualism (Parker, 1989) to lead the

majority of psychologists to define social class, when they use that term at all, as some variant on socioeconomic status, or to use the two terms interchangeably (e.g., Baron, Albright, & Malloy, 1995). In practice, most psychologists employ only the less politicized SES construct, even when they use the descriptor “social class.”

In terms of research, social class and SES can both be measured from an objective or subjective perspective. Objective indicators are quantifiable variables such as earned income, educational attainment, and occupational status. Alone and in various combinations, these three are the indicators of *both* social class and SES that researchers most often use (Argyle, 1994; Bullock, 2004; Jackman & Jackman, 1983; Liu, Soleck, et al., 2004). With SES, an individual’s status is usually expressed as a single figure on a standardized scale such as the Blishen Index (Blishen, Carroll, & Moore, 1987). With social class, individuals are assigned to one of several predefined groupings based primarily on occupation, but often also based on income and/or education (e.g., “blue collar,” “upper-middle class,” etc.; Grusky & Sorensen, 1998; Rose, 1998).

Objective measures of social class and socioeconomic status are in very common use in psychological research, despite significant criticisms levied against this use. For example, these variables are often used as criteria in selecting research participants. However, when using SES/class to select research participants, psychologists often do not measure SES/class, but simply claim that the population from which participants were sampled was homogeneous (Graham, 1992; Jeynes, 2002; Mueller & Parcel, 1981). For example, researchers may claim that all participants were sampled from a “middle-class” school without describing how “middle-class” was determined and without

considering the possibility of intra-school variation in SES or class (e.g., Baron et al., 1995; Darley & Gross, 1983).

Perhaps the most common use of objective SES and class constructs in psychological research is to statistically control variance attributable to socioeconomic differences. In such cases, psychologists do measure SES/class, but rely heavily on outdated and unreliable measures (Liu, Ali, et al., 2004; Mueller & Parcel, 1981; Sirin, 2005). Moreover, the widespread practice of controlling for SES/class seems to simultaneously acknowledge the important effects of social stratification while denying its importance as a topic of psychological inquiry in its own right. Ironically, the fact that SES/class correlates with many important psychological outcomes leads psychologists to statistically control for its effects rather than attempt to study and understand these important relations. It may be that psychologists consider socioeconomic conditions to be outside psychology's scope, or that they view the social class construct as one that carries too much "theoretical baggage" from sociology (Singh, 1989).

Some psychologists (e.g., Ashmore et al., 2004; Heppner & Scott, 2004; Jessor, 1993; Sirin, 2005) have argued that the discipline must begin to take greater account of socioeconomic determinants of behaviour and weave these wide-ranging contextual factors into our theories and models. For example, in the literature on career choice and development, where income, education, and occupation should be central concerns, a recent review indicated that these factors had been relegated to the sidelines for the past 20 years (Whiston & Keller, 2004). Similarly, researchers of interpersonal discrimination refer to class-based discrimination as an "almost invisible" problem in their field (Lott & Maluso, 1999). Many others have noted the silence regarding class-related issues in

everyday life as well as in psychological research and clinical practice (e.g., Bettie, 2000; Fine & Burns, 2003; Heppner & Scott, 2004; Jensen, 1998; E. Jones, 1974; Liu, Ali, et al., 2004; Ostrove, 2003; Piper, 1995; Ross, 1995).

Despite some recent attempts to bring more visibility to these issues (e.g., Blustein et al., 2002; Fine & Burns, 2003; Lott & Saxon, 2002; MacPherson & Fine, 1995), there remains much work to be done in establishing and testing psychological theories of social class and socioeconomic status. What is needed, say the critics, is "a systematic research-based literature focused on the exploration of the *psychological* meaning of social class" (Ostrove & Cole, 2003 p. 680, original emphasis). One area in which psychologists may be especially well-positioned to contribute is the subjective meaning and measurement of these constructs.

### *Subjective Measures of SES and Social Class*

If social class and SES are to be linked to psychological experiences and outcomes, it makes sense to consider how the objective indicators of socioeconomic status interact with the subjective perspective of research participants. In some cases, individuals' subjective status shows a stronger association to the outcomes of interest than do objective measures. For example, in a study of healthy women, participants' subjective placement on a picture of a socioeconomic "ladder" was more strongly associated with various measures of physical and psychological health than was their objective socioeconomic status based on education, occupation, and income (Adler, Epel, Castellazzo, & Ickovics, 2000).

Sociologists have traditionally addressed three main issues regarding subjective class identity. First, they have asked simply to which social class people believe they belong. Second, they have examined people's accuracy in placing themselves in the correct social class. Finally, they have studied how objective class membership influences the criteria people use to establish their own and others' social class.

### *Placing Oneself in a Social Class*

The most basic question about subjective class identity is to which class people believe they belong. Sociologists often refer to this as lay people's "class identification." However, as Vanneman and Cannon (1987) have noted, simply asking people to which class they belong does not measure identification, which connotes some form of psychological attachment. Therefore, I follow their lead in referring to this as "class placement."

An early study asked a national sample of American men: "If you were asked to use one of these four names for your social class, which one would you say you belonged in: the middle class, lower class, working class, or upper class?" (Centers, 1949, p. 76). Nearly all participants placed themselves in the working (51%) or middle (43%) class, with only a tiny fraction avowing membership in the upper (3%) or lower (1%) class.

The importance of Centers' findings hinged on the way he posed the question. Earlier surveys had found over three-quarters of Americans, when asked an open-ended question about their class or when given only the options lower, middle, and upper class, typically placed themselves in the middle class (Centers, 1949). From the perspective of conflict theory, this meant that a large proportion of disadvantaged people were failing to

recognize their own oppression and exhibiting “false consciousness” by identifying with the middle class (Crompton, 1993). Centers’ contribution was to add the category working class, which effectively divided the middle-class response. He argued from these results that the American people were not, as was often assumed, blind to class differences. When presented with a distinction between working class and middle class, Americans demonstrated they saw a difference (Centers, 1949).

More than 30 years later, Jackman and Jackman (1983) conducted a national survey of 1,914 U.S. residents. They asked people to which of five social classes they belonged: the poor, the working class, the middle class, the upper-middle class, and the upper class. The most common responses were middle (46.4%) and working (35.8%) class, followed by upper-middle class (9%), and poor (4.8%). Only 1% of respondents said they belonged to the upper class, but their numbers were too small to be reliable. Jackman and Jackman claimed that by using the label “poor” rather than “lower class” as Centers had done, they had allowed people to select the bottom category without applying such a stigmatizing label to themselves.

The question of whether or not poor or working-class Americans over-identify with middle-class status remains open. Recent reports on the size of the American middle class range from 40% to 90%, depending on the source (Linkon, 1999). Hoyt (1999) argues that being middle-class is normative in U.S. society, the “majority” to whom politicians and the media appeal when attempting to reach the broadest segment of the population. Because most individuals can locate others above and below themselves in the socioeconomic hierarchy, they may conclude that they, too, must be part of this middle-class majority. However, statistics from the General Social Survey (Davis, Smith,

& Marsden, 1972-2006) indicate that in recent decades, Americans are equally divided between working- and middle-class, with roughly 46% placing themselves in each group.

The Canadian situation seems to be similar. A nationally representative survey of 1500 Canadians specified that “Canadian society is often divided into ‘classes’ using income to categorize people” (Envirofocus Canada, 1990). With this prompt, respondents identified their class membership as follows: lower class (12%), working class (39%), middle class (46%) and upper class (2%). Because the question mentioned income, it is unclear how these self-placements compare to the U.S. data.

Another study classified a representative sample of 1785 Canadians as owners, supervisors, managers, and workers and asked them if they considered themselves working- or middle-class (Johnston & Baer, 1993). Workers and supervisors responded similarly, with roughly 37% identifying as working class, 30% identifying as middle class, and 30% saying they were not in any class. Interestingly, roughly 34% of owners and 17% of managers also identified as working class, suggesting that not only working-class people have a subjective view of class that differs from that of researchers.

#### *Accuracy of Subjective Class Placement*

As these findings suggest, individuals’ subjective class placement can differ from the “objective” categorization researchers would assign to them. Therefore, researchers have tried to establish the factors that determine the accuracy of people’s subjective class placement (e.g., Ben-Porat, 1987; Centers, 1949; Ekehammar, Sidanius, & Nilsson, 1988; Goodman et al., 2000; Luo & Brayfield, 1996). This approach assumes that researchers know the true factors that determine class, can measure them accurately, and

consequently are able to correctly identify a person's class status. From this perspective, people who are accurate will use these same factors in determining their own class and arrive at the same answer (Jackman & Jackman, 1983).

Centers (1949) found that most adults tended to identify their own class accurately, but adolescents tended to place themselves in a higher social class than indicated by the objective criteria. More recently, Goodman and colleagues (2000) studied the accuracy with which 16-year olds assessed their own social class. Using parents' education, occupation, and income as the objective criteria, the authors identified working-class and upper-middle-class youth and then asked them to determine their own social class. Of the upper-middle-class participants, 74% correctly identified their class, but of the working-class participants, only 17% were correct. Moreover, 79% of working-class participants expected to become upper-middle-class as adults, a very unrealistic estimate given the actual likelihood of this degree upward mobility. Ethnographic research at two U.S. universities also found that working-class students tended to overestimate their class, whereas upper-middle-class students identified their class more accurately (Stuber, 2006). It appears that lower-SES youth may have a general tendency to overestimate their class position.

A study by Emler and Dickinson (1985) revealed one potential explanation for these results. They asked children aged 7-12 to indicate the income earned by street sweepers, bus drivers, teachers, and doctors by allocating play money to each employment category. They found that working-class and middle-class children ranked these occupations similarly, with the street sweeper earning the least and the doctor earning the most. However, working-class children did not distinguish between bus

drivers and teachers, indicating they may have been insensitive to the division between manual and non-manual labour that is central to many sociological definitions of class. Also, working-class children perceived the range of incomes across occupations to be much smaller than did middle-class children, who perceived a much larger and more accurate range of incomes. If working-class children believe the distance separating occupational classes is relatively small, this may skew their perception of their own family's status.

Like Centers (1949), Jackman and Jackman (1983) also found that adults were reasonably accurate in identifying their own class. For example, labourers were three times as likely as managers to consider themselves poor or working class, and managers were about ten times likelier than labourers or service workers to consider themselves upper-middle class. Respondents' scores on an occupational prestige scale, the Duncan Socioeconomic Index, confirmed these results. For example, nearly 75% of respondents with scores in the bottom decile of the SEI considered themselves working class or poor, compared with less than 10% of those in the top decile on the SEI. Nevertheless, occupational prestige scores accounted for only 18% of total variance in respondents' self-identified class; with added measures of education and income, this was increased only to 27%. This leaves a lot of variance unexplained, suggesting that other factors may come into play when individuals subjectively determine their social class.

*Lay Conceptions of Class Criteria and Class Structure*

These and other studies show that individuals are not always “accurate” in identifying their own and others’ social class. That is, the association of subjective<sup>2</sup> and objective class is strong, but not perfect (Argyle, 1994). In light of such results, some investigators reasoned that apparent inaccuracies could result if lay people differ from social scientists in the rationale or criteria they use to determine their own and others’ social class.

In general, this research suggests that class as used by academics may differ from its common use, where class includes concepts of prestige, social distinction, and style (Crompton, 1993). For example, Townsend (1979, cited in Argyle, 1994) asked British participants to choose the best criterion to determine their own class. From a list of five criteria presented, the most commonly chosen was “way of life” (31%), followed by family (18%), job (17%), money (17%), and education (10%). Another U.K. study (Reid, 1989, cited in Argyle) asked participants to select the most important criteria for determining another person’s class. Respondents ranked the options as follows: the way they speak, where they live, the friends they have, their job, the sort of school they attended, the way they spend their money, the way they dress, and the car they own. Using factor analysis, Jackman and Jackman (1983) determined that U.S. participants used two types of class criteria that were roughly equally important: objective/economic criteria (occupation, income, and education) and cultural/expressive criteria (beliefs, lifestyle, and family). Overall, it appears that individuals determine social class using a wider array of indicators than those used by most social scientists, and may consider

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<sup>2</sup> “Subjective class” is the terminology most commonly used to refer to lay people’s conceptions of class, even when they are being asked about another person’s class. For the sake of clarity and consistency, I follow this use, reserving the term “objective class” for researchers’ conceptions.

occupation—a core sociological criterion—to be a relatively unimportant determinant of class.

Another approach to investigating subjective class is to ask people to rank the social status of people they know. Coleman and Rainwater (1978) used this approach and found a high degree of agreement about relative ratings of status within a U.S. community, suggesting that people were using similar criteria to evaluate status. They also used this approach in experimental research, manipulating the income, occupation, and education of hypothetical families and asking participants to rank their status. Income was the strongest predictor of family prestige, followed by job, then education. Jain (1975, cited in Kirby, 1996) used a similar method, manipulating the occupation, education, family income, and ethnicity of a hypothetical person. Like Coleman and Rainwater, Jain found that participants rated income as a very important determinant of others' perceived class, that education and occupation were also important, and that ethnicity was not used.

Studies of lay criteria of social class suggest that traditional sociological models, especially those that rely primarily or exclusively on occupation as the central determinant of class, diverge considerably from those of ordinary people. In particular, income appears to be more important than occupation in a number of studies, and various “lifestyle” factors often are often more important than the classic triad of occupation, education, and income.

We have seen that individuals' objective class can influence their accuracy in determining their own and others' social class. Researchers have also examined how people's objective class affects the content of their class conceptions. Goodman and

colleagues (2000) found that upper-middle-class and working-class youth did not differ in terms of the importance they attributed to family money, parents' occupation, beliefs and attitudes, or the family's friends. However, compared to upper-middle-class youth, working-class youth placed significantly less importance on parents' education level and significantly more importance on personal money as determinants of class. Along similar lines, working-class scholarship students attending an elite boys' school tended to see social divisions within the school as largely economic, whereas the upper-class boys were more likely to emphasize parents' education and social standing (Kuriloff & Reichert, 2003).

Like adolescents, adults' class perceptions can be influenced by their objective class. Vanneman and Cannon (1987) found that managers perceived a large top class and small bottom class, and located themselves in the top class. In contrast, labourers perceived a large bottom class and small top class, and located themselves in the bottom. This finding suggests that the subjective perception of the class structure is determined in part by one's objective social position. Moreover, whichever class they belong to, people appear to think their own class position is more common than it actually is.

Kirby's (1996) research on American university students supports the view that individuals' social class affects their perception of class structure and content, but she argues that individual self-perceptions also play a role. She argues that, using norms based on our perceptions of ourselves and of people close to us, we develop a view of the class structure that places us in the "middle but slightly positive range" (p. 48). Her participants tended to misclassify themselves "in a self-serving manner which defines self as like others and positive" (pp. 47-48). These results provide an interesting alternative

conception of subjective class that emphasizes individual differences as well as class differences in lay conceptions of class structure and content.

Other researchers have also demonstrated the importance of the individual's perspective in measuring social class and its association with other variables. For example, Stacey and Green (1971) found that British voters' subjective class affiliation was a better predictor of voting behaviour than their objective class. Working-class voters who considered themselves working class were more likely to vote Labour, whereas working-class voters who considered themselves middle class were more likely to vote Conservative. More recently, health psychologists have demonstrated a closer connection between women's mental and physical health and subjective social status rather than objective status, and the association between health and subjective status held after objective status was statistically controlled (Adler et al., 2000). These studies demonstrate the potential importance of developing subjective approaches to measuring social standing.

### *Chapter Summary*

The association between parental socioeconomic status and the educational outcomes of their offspring is clear. Parental income, occupational status, and especially educational attainment are important predictors of the likelihood of attending university and degree attainment. The material advantages of higher socioeconomic status are undeniable, but social and cultural capital also mediate the link between socioeconomic status and academic achievement. For example, parents with a university education employ their knowledge and social connections to ensure that their children attend and

succeed in university, allowing social class advantages to be reproduced across generations.

To date, psychologists have contributed very little to our understanding of what mediates the association between socioeconomic status and university achievement. Indeed, psychological perspectives have been notably absent when it comes to the study of class and socioeconomic status in general. Despite the many challenges associated with measuring social class and socioeconomic status, psychologists could add an important perspective to these issues by focusing on people's subjective interpretations of their social-class identity.

## CHAPTER 2

## COLLECTIVE IDENTITY OF SOCIAL CLASS

In the previous chapter, I demonstrated the connection between socioeconomic status and postsecondary achievement. I also argued that psychologists could contribute to our understanding of this connection by examining people's subjective interpretations of their social-class identity. In this chapter, I further develop the idea that social class be a basis for collective identification, blending sociological conceptions of class identity and research on the educational experiences of poor and working-class people with understandings drawn from social psychology.

I begin the chapter with an overview of the identity construct and what it means to base one's identity on membership in social groups, focusing on the pervasive influence of sociocultural categories such as class on self identity. I argue that university may represent a change of cultural environment for working-class students, one that socializes them to adopt norms and values that are already familiar to their middle-class peers. I present some existing research, mainly conducted in other fields such as sociology of education, that illuminates identity challenges faced by working-class class people in relation to higher education and upward class mobility.

This research has provided valuable insights, but there is a need to systematically investigate class identity from a social-psychological perspective. To this end, I spend the bulk of this chapter developing a new construct, the collective identity of social class, laying the foundations for creating a measure of this construct that situates class identity in the long tradition of research on social identity.

*Class as a Sociocultural Identity*

Identity is a familiar construct in many academic disciplines, including anthropology, sociology, political science, education, and cultural studies (see Huddy, 2001). In psychology, identity has been theorized as both an individual and a collective construct. Individual identity centers on characteristics and experiences that produce a sense of the self as a unique individual, whereas collective identities arises from a person's membership in real or symbolic social groups (Ashmore et al., 2004). Unlike sociologists, psychologists see collective identities as attributes of individual persons, rather than attributes of social groups themselves (Simon & Klandermans, 2001).

Despite this focus on individuals, some early approaches to self-identity assumed that the structure and functions of the self are universal, with only its content varying from person to person. The assumption of universality meant that, for too long, there was no systematic study of how sociocultural categories – including social class, gender and race – might be implicated in the self's content, structure, and processes (Oyserman & Markus, 1993). Today, sociocultural influences on self-identity are more widely recognized, but psychology has not yet embraced the study of social class (Saris & Johnston-Robledo, 2000; Whiston & Keller, 2004; Williams, 2009).

This is unfortunate, because like other minority statuses,<sup>3</sup> social class is "a powerful social category that shapes individuals' experience of themselves and the world" (Ostrove & Cole, 2003, p. 680). Class and other sociocultural categories influence our values, goals, and assumptions. Because these tend to be implicit and unexamined, they

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<sup>3</sup> Although poor and working-class people constitute a numerical majority, they may be considered a "power minority" in the sense that they form a subordinate group in society (Green, 1999). In addition, they are often a numerical minority in universities, where most students and faculty are from the middle or upper classes.

are particularly ubiquitous and unavoidable influences on self-identity (Oyserman & Markus, 1993). Sociologists often refer to class as a “master status” because it affects individuals throughout their life course and across multiple domains (Karp, 1986).

Indeed, the effects of social class are considered so pervasive that classes are often said to have distinctive cultures (Archer, 2003; Bettie, 2000; Mahalingam, 2003). Although its thorough examination is outside the scope of the current project, the cultural metaphor for social class underscores the idea that class identity is based on a social category that is wide-ranging in its potential influence on individuals, but sometimes invisible to its own inhabitants (Parker, 1989). Because of this, working-class people may experience a form of culture shock when encounters with higher education make class differences apparent, perhaps for the first time (Aronson, 2008; Gupton, Castelo-Rodriguez, Angel Martinez, & Quintanar, 2009; Zwerling & London, 1992).

### *Class Cultures in the University Context*

University education has been described as a process of socialization, during which all students adapt to a new culture and set of values (Pascarella & Terenzini, 1991). However, universities are populated mainly by middle- to upper-class professors and students (Gilchrist, Phillips, & Ross, 2003; Nunez & Carroll, 1998) and generally espouse middle- to upper-class norms and values (Hoyt, 1999). As a result, students already socialized in middle- and upper-class environments are likely to feel more at ease in university than students socialized in working-class environments.

Perhaps the most pertinent example of these class-based differences concerns the value of university education itself. Middle-class people tend to believe that higher

education has inherent value, providing intellectual and personal enrichment as well as valuable social and career connections. They tend to see earning a degree as part of the normative passage into adulthood and a rewarding and prestigious career (Aronson, 2008; Holmstrom, Karp, & Gray, 2002). In contrast, for working-class people, university education may not be assumed or proven to have value. They may consider university financially risky because it does not guarantee secure employment (Blustein et al., 2002). Moreover, some working-class boys and men see higher education and the office jobs it leads to as “soft” or feminine (Fine, Weis, Addeleston, & Marsusza, 1997; MacLeod, 1995; Willis, 1981; Willott & Griffin, 2004). Therefore, in some working-class families, going to university may be seen as a way of delaying, rather than preparing for, adulthood and working life. Thus, educational values represent one key difference between what working-class students learn at home and what they are being socialized to believe in the university environment.

University education also involves a process of desocialization, where students unlearn certain attitudes and behaviours (Pascarella & Terenzini, 1991). For working-class students, this may include learning to devalue their own background. Poor and working-class people report being openly and subtly denigrated in universities and find that their views and experiences are seldom reflected in the curriculum (Ball, 2003; Dews & Law, 1995; Miller & Kastberg, 1995). Granfield (1994) found that working-class students at an elite law school felt alienated, out of place, and embarrassed by their differences from other students. They also reported significantly higher levels of stress than other students, often related to feelings of inadequacy. In retrospective studies, some students from poor and working-class backgrounds report feelings of shame and

exclusion so strong that they remained painful decades later (Karp, 1986; Ostrove & Stewart, 1998; Wentworth & Peterson, 2001). Langhout, Drake and Rosselli (2009) found that university students with less economic, social, and cultural capital experienced more classism, which had a negative influence on psychosocial outcomes and increased students' intentions to leave the school.

Overall, the research suggests that a mismatch between working-class and university culture can have negative psychological and academic consequences for poor and working-class students. The resocialization that takes place in university means that working-class students may have to make greater adjustments to their values, norms, and assumptions than their middle-class peers. Autobiographical accounts by academics from poor and working-class backgrounds (e.g., Dews & Law, 1995; hooks, 2000; Kadi, 1996; Langston, 1993; Rodriguez, 1982; Ryan & Sackrey, 1984) have sometimes described these changes in terms of shifting self-identities.

A few researchers have more directly examined identity concerns among working-class students. Reay and colleagues' study of postsecondary choice concluded that many working-class students were "struggling to avoid identity shifts that would open up a distance between themselves" and their working-class communities (2005, p. 99) and trying to balance their aspirations for a "better" life with their desire to remain connected to their past. Granfield's (1994) research found that many working-class law students struggled to reconcile their feelings of marginalization and stigma with their reluctance to adopt the professional norms and values of their middle- and upper-class peers. These accounts convey a profound ambivalence toward establishing a "higher" class identity, combined with feelings of inauthenticity both in the new middle-class

milieu and when returning to working-class surroundings. For working-class students, maintaining an authentic sense of self-identity can conflict with aspiration and achievement in ways that middle-class students do not generally encounter. Indeed, upwardly mobile youth can experience educational and occupational success as “failure” or “transgression” (Bourdieu, 1999, p. 510, quoted in Reay et al., 2005, p. 94). Even expressing the desire to attend university may be seen as a comment on the inadequacy of one’s family and friends. Many working-class students report tension between remaining loyal to their families and adopting new, middle-class values (Ball, 2003; Dews & Law, 1995; Granfield, 1994; Hoyt, 1999; Marantz Cohen, 1998; Miller & Kastberg, 1995).

Identity concerns are a central issue for most university students during this important transition to adulthood (Jervik, 1999), but middle- and upper-class youth usually do not have to cope with ambivalence about growing apart from their family of origin (Karp, Holmstrom, & Gray, 1998). In their families, a university degree and prestigious occupational goals are expected, encouraged, and supported (Holmstrom et al., 2002). Rather than creating distance, striving for success in higher education tends to bring middle- and upper-class youth more in line with familial expectations and values.

Many working-class parents are aware that higher education may create a gulf between them and their children, and consequently may openly or subtly discourage high educational aspirations. Working-class youth have consistently lower educational aspirations than other students (e.g., Andres et al., 1999; DuBois, 2001; Hahs-Vaughn, 2004). Some professional adults from working-class backgrounds (e.g., Karp, 1986; Lubrano, 2003; Ross, 1995) report that their parents did not encourage upward mobility, but rather questioned their desire to “rise above their station.” Some encouraged their

children to pursue higher education for its financial benefits but disliked the resulting changes in manners, dress and speech. Some parents asked “Who do you think you are?” hinting at the class-based identity dilemmas that students may encounter. In this context, it is not surprising that identity concerns arise, as working-class university students may feel divided between who they are and who they are attempting to become.

### *A Social-Psychological Perspective on Class Identity*

Given how many aspects of life can be affected by one’s position in the socioeconomic hierarchy, it is perhaps surprising that psychologists have not paid more attention to social class. Recently, a few psychologists have attempted to bring more visibility to class-related issues (Fine & Burns, 2003; Liu, Soleck, et al., 2004; Lott & Saxon, 2002; MacPherson & Fine, 1995; Ostrove & Cole, 2003; Williams, 2009), but no psychologists have systematically examined how social class might structure identity. Psychologists interested in identity have studied related issues such as poverty, stigma, and discrimination (Barreto, Ellemers, & Palacios, 2004; Croizet & Claire, 1998; Major & O’Brien, 2005; Oyserman, Gant, & Ager, 1995) but none has explicitly situated class in a social-identity framework.

There is a strong need to add the class dimension to enrich our understanding of social identity. Two reviews of identity research (Frable, 1997; Howard, 2000) concluded that there was virtually no social psychological research on class-based identities in either sociology or psychology. Identity researchers have also neglected to include poor and working-class people among their research participants. Sampling disproportionately from universities, they have implicitly focused their theories on the identity structures

and processes of a minority of the population—the predominantly middle- and upper-class youth who attend research universities (Graham, 1992; Wentworth & Peterson, 2001).

Class identity has not been systematically studied by social psychologists and remains a contentious issue in sociology. Nevertheless, there is some evidence to suggest that class constitutes an important basis for identity. For example, in a recent poll (Association for Canadian Studies, 2003), 2,012 Canadians were asked “Which is the most important part of your identity and culture?” The options were language, political orientation, ancestry and ethnic origin, gender, and social class. Nationally, 7% of Canadians chose social class first, and 11% chose it second. Among young Canadians (18-29), nearly one in four chose class as their most important (10%) or second most important (14%) part of their identity and culture. Given the strong salience of the other identity markers on the list, these results seem to refute the common idea that Canadians do not consider class to be important. Moreover, in unreported analyses of these data (Jedwab, 2006), more education was associated with placing more importance on social class as part of one’s identity. Only 9% of people with less than high school education said social class was important, compared with 13% of high school graduates, 17% of those with college or vocational training, and 19% of those with university degrees. Income and job skill levels did not map onto class identity in a consistent fashion. The finding that class identity is more important for youth and for more educated people underscores the relevance of studying the class identity of university students.

As I discussed earlier, sociologists have examined some of the identity concerns associated with class-discordant educational choices (e.g., Archer & Leathwood, 2003a;

Reay, Davies, David, & Ball, 2001), but have found the psychological aspects more difficult to unmask than the material aspects. This suggests that a more psychological approach to class identity may be of value.

Recent research in the U.K. (Jetten, Iyer, Tsivrikos, & Young, 2008) has begun to demonstrate this value. In one study, high school students who perceived incompatibility between their background and their future identity as university students felt less well-prepared for university and expected to identify less with their new role as university students. In a second study, students who perceived more compatibility between their background and a student identity a month before entering university had stronger student identities two and eight months after the start of their first year. Moreover, stronger identification as a student had a positive influence on the belief that university would result in social mobility. These findings indicate that making class-discordant educational choices may lead “lower-class” students to identify less with their student role and reduce their belief that university will help them improve their position.

These recent findings demonstrate the promise of a psychological approach to questions of class, identity, and postsecondary outcomes. So far, the few other psychological studies on the effects of class or SES on postsecondary students’ identity have used a developmental framework (e.g., Jervik, 1999; S. R. Jones, 1997), focusing on individual differences in achieving predefined stages of identity development. This approach has lacked the theoretical tools for framing questions about student identity in terms of social stratification. A better approach may be to use psychological identity theories that give greater prominence to the role of the social group, namely, theories of social or collective identity.

### *Collective Identity*

In psychology, the term “social identity” has traditionally been used to refer to identities based on group membership. Recently, however, some authors have proposed the term “collective identity” as a replacement (e.g., Ashmore et al., 2004; Brewer & Gardner, 1996; Simon & Klandermans, 2001). Proponents of the new terminology have argued that “social identity” has come to take on many different meanings and has consequently become less useful as an index of a distinct psychological construct. Moreover, the term “social identity” implies that some identities are asocial, a point of view that is not supported by contemporary identity theorists. Therefore, I follow the suggestion and adopt the terminology collective identity.

A major focus of theory and empirical work in this area is the concept of social identification, the degree to which a person’s self-definition is based on membership in a particular social group or category (Ellemers, 1993; Howard, 2000). To share a collective identity, group members do not necessarily have to interact with each other. Instead, a collective identity is based on sharing (or seeming to share) certain characteristics with others. These characteristics may be achieved ones such as occupation and political affiliation or ascribed ones such as race-ethnicity and gender (Ashmore et al., 2004). For researchers, a central concern is how this collective identity is constituted psychologically. What are the elements or dimensions of collective identity?

### *Elements of Collective Identity*

Collective identity is generally understood as a multidimensional construct that includes cognitive, affective, and behavioural components. In an early formulation of this

idea, Tajfel's social identity theory (1981) proposed that one's social identities are based on membership in a given social group or category, cognitive beliefs associated with the category, the value and emotional significance of the category, and the behavioural implications of category membership.

Social identity theory and its extension, self categorization theory (e.g., see Turner, 1999), have led to a voluminous body of research that has further developed this multidimensional view of collective identity. No single definition fully captures its multidimensional nature. However, a major synthesis of the literature (Ashmore et al., 2004) recently highlighted several elements of collective identity: self-categorization, explicit and implicit importance, evaluation, attachment and sense of interdependence, social embeddedness, behavioural involvement, and content and meaning. Using Ashmore and colleagues' synthesis as a guiding framework, I assess these elements and illustrate their potential to contribute to a new multidimensional construct, which I call the collective identity of social class.

### *Self-categorization*

First and most fundamentally, collective identity refers to self-categorization as a member of a particular group. In social identity theory and self categorization theory, social categorization is assumed to be an automatic cognitive process that helps people make sense of a complex social world (Hogg, Terry, & White, 1995). According to this view, people sort social stimuli into categories based on perceived similarities and differences. We begin to form a collective identity when we perceive that we have characteristics in common with other members of a social category.

Collective identities can be based on similarity of ethnicity, gender, occupation, political affiliation, and so on. Collective identities can also be based on far more trivial perceived similarities. Laboratory research using ad hoc groups formed on a “minimal” basis demonstrates that merely categorising people into arbitrary groups is often enough to trigger responses such as ingroup favouritism, ingroup loyalty, and adherence to ingroup norms (Brown, 2000; Ellemers, Spears, & Doosje, 1997).

In this type of research, self-categorization as a group member is not usually directly assessed, but rather is inferred from behaviours (e.g., allocation of rewards) or attitudes (e.g., prejudice) that are assumed to reflect identity processes such as ingroup favouritism (Ashmore et al., 2004; Ellemers, 1993). Similarly, sociological research on class identity often measures class-relevant behaviours and attitudes (e.g., voting behaviour, attitudes toward taxation), and then infers the degree of subjective class identification from how well the behaviours or attitudes fit with individuals’ objective social class (e.g., C. Brooks, 1994; Evans, 1993; Grusky & Sorensen, 1998). In both psychology and sociology, the practice of inferring the degree of group identification from behaviours and attitudes assumed to index group identity has been extremely influential in developing both the theory and the empirical base of identity research.

Despite this practice, all of the major perspectives on collective identity assume that individuals must categorize themselves as group members before identity structures and processes will be engaged. For example, in social identity theory, social groups are considered to influence identity only insofar as they are socially real—if people categorize themselves and are categorized by others as group members (Ashmore et al., 2004; Thoits & Virshup, 1997). Similarly, self categorization theory (Turner, 1999),

optimal distinctiveness theory (Brewer & Gardner, 1996), and various sociological identity theories (e.g., see Hogg et al., 1995) all assume that overt self-categorization is the foundation of collective identity.

However, when considering collective identities based on membership in certain types of groups, self-categorization is not as straightforward or unproblematic as it is in the laboratory. As discussed earlier, sociologists have had limited success in making research on subjective class identification comply with their theoretical suppositions—many people do not categorize themselves into the social class groups to which they objectively belong based on class theory (e.g., Goodman et al., 2000; Jackman & Jackman, 1983). In particular, people seem to identify as members of the working class less often than they should based on objective socioeconomic indicators (Fine et al., 1997; Gerteis & Savage, 1998; Grusky & Weeden, 2001).

Social psychologists face a similar problem studying self-categorization in relation to complex, naturally occurring identities. Recent critiques of social identity theory by Huddy (2001), Brown (2000) and others suggest several factors that may influence whether or not people subjectively categorize themselves as members of a social group to which they objectively belong. These include: (1) the social status of the group, (2) the clarity and perceived permeability of group boundaries, (3) the perceived legitimacy and stability of intergroup relations, and (4) the individual's perceived similarity to the prototypical group member. Each of these factors can help to clarify the process of self-categorization in social classes.

*Social status of the membership group.* The most obvious reason that class-based self-categorization may be problematic is implied in the language of class itself; some classes are “lower” and others “higher.” Membership in the lower classes is defined by the low relative status of members, who have less money, education, occupational status, and overall prestige than people in higher classes. Although there are negative stereotypes about people in all social classes, most of the negative class stereotypes describe people in the “lower” classes (Bullock, 1999b; C. Cozzarelli, A. V. Wilkinson, & M. J. Tagler, 2001b; Lott, 2002). Individuals may disavow membership in a lower social class in order to avoid being negatively stereotyped.

On the other hand, individuals may acknowledge their membership in a low-status group but find other ways to avoid the associated stigma. Social identity theory assumes that people are motivated to maintain positive self-esteem, and that a positive collective identity is achieved when one’s ingroup compares favourably with relevant outgroups (Ellemers, 1993). Therefore, members of low-status groups can maintain positive self-esteem by using “social creativity” strategies, which involve reinterpreting intergroup comparisons to place one’s own group in a more favourable light. For example, members of low-status groups may denigrate the outgroup, evaluate their own group less negatively, use alternative criteria to evaluate the groups, or emphasize heterogeneity within their group (Brown, 2000; Howard, 2000).

There is some evidence that poor and working-class people use these strategies and that they maintain a relatively positive self-concept as a result. For example, Bullock (1999a) cites an early study (Luft, 1951) that compared how college students and poor people rated poor and wealthy individuals on a variety of attributes. College-student

participants gave much more favourable ratings to the wealthy individual than to the poor individual. In contrast, poor participants rated the poor individual as positively as the college students had rated the wealthy individual. This suggests poor people perceive their own group more favourably than they are perceived by others.

Qualitative research on inter-class attitudes also shows evidence of “social creativity.” Gorman (2000) found that roughly half of the working-class people he interviewed denigrated middle-class values and attitudes. For example, they claimed that middle-class people look down on others, are pretentious, put their careers before their families, lack common sense, and do not perform “real work.” Although none of this research uses social identity theory, it does illustrate some of the ways that members of “lower” social classes deny established status differences in order to maintain a positive self-identity.

Social-identity researchers have found evidence that members of many low-status groups use social creativity strategies to maintain a positive collective self-evaluation. However, they are not yet able to predict the choice of strategy and there is no research on these phenomena comparing members of various social classes (Brown, 2000; Ellemers et al., 1997; see also Jost & Major, 2001). Strategies for dealing with membership in low-status groups are better understood when it comes to the influence of the structural features of the groups themselves.

*Structural features of groups.* The structural features of a social group refer simply to the clarity and permeability of its boundaries. Members of groups with clear and impermeable boundaries are more likely to categorize themselves as members and to

form a strong collective identity. Unclear boundaries make it difficult for people to know who is and is not a group member, sometimes including themselves. Permeable boundaries make it possible for members to enter and leave the group, reducing the impetus for collective identification (Brown, 2000; Ellemers, Spears, & Doosje, 2002).

Social identity theory assumes that simply establishing clear group boundaries leads people to form collective identities, which in turn underlie various group processes. Unfortunately, social identity theory researchers' focus on understanding bias within and between groups has left this assumption relatively unexplored (Huddy, 2001). Both in the laboratory and in studies of naturally occurring (e.g., gender, ethnic) groups, social identity researchers have focused on membership in unambiguous groups with clearly open or closed boundaries (Barreto et al., 2004). Therefore, their findings can only be generalized to such groups.

When it comes to establishing clear social class boundaries, the conceptual and empirical difficulties are notorious. As discussed earlier, researchers have not established clear dividing lines among social classes, nor do they agree about the number of classes that exist or the names of the various classes. Even if class categories were clearer to researchers, the criteria that lay people use to locate themselves and others in social classes can vary widely. This suggests that lay people's perceptions of class membership may be somewhat ambiguous.

Unclear group boundaries may also arise if group members' belonging is not obvious to outsiders (Huddy, 2001). If they can, members of low-status groups may attempt to "pass" as members of a higher-status group by altering features that define them as members of the low-status group. For example, poor and working-class students

may adopt the speech patterns, dress, and other markers of middle- and upper-class status in order to fit in with their peers (e.g., Granfield, 1994; Kuriloff & Reichert, 2003). This phenomenon is also reversed in some cases, with middle- and upper-class youth trying to pass as poor or working class (e.g., see Bettie, 2000; D. Brooks, 2001). People also engage in “code switching,” changing class markers to fit in different contexts (Argyle, 1994). Because class markers are relatively easy to alter or hide from outsiders, class boundaries are difficult to determine, which may make self-categorization in social classes less likely.

As with unclear group boundaries, groups with boundaries that are permeable to changing membership also are less likely to be a basis for self-categorization (Huddy, 2001). Research indicates that even a small degree of permeability leads some group members to seek individual mobility, particularly members of low-status groups (e.g., Moghaddam & Perreault, 2001). Moreover, when individual mobility is possible, high-ability members of low-status groups are less likely to identify with their group (Ellemers, Van Knippenberg, de Vries, & Wilke, 1988). However, laboratory (Ellemers et al., 1997) and field research (see Brown, 2000) has shown that individuals with a high degree of commitment to their group are less likely to pursue individual mobility.

These findings imply that, to the extent that individuals perceive social classes as permeable groups, self-categorization as a class member is less likely unless individuals are highly committed to their class. There is evidence for both actual and perceived permeability of social classes, but less evidence of commitment to class membership, suggesting that self-categorization in social classes is unlikely to be strong.

In contemporary Western societies, social classes have somewhat permeable boundaries that permit a degree of individual social mobility across generations. However, intergenerational mobility varies widely across countries. The Organization for Economic Co-operation and Development (2010) reports that in the United States and United Kingdom, 45-50% of high-income fathers' wage advantage over low-income fathers is passed on to their sons, whereas in Canada only 20% of the wage advantage persists across generations. This evidence that social mobility is so much lower in the U.S. and U.K. than in Canada underlines the importance of context in interpreting research findings. Regardless of these differences, most people have either personally experienced class mobility or are aware of others who have (Jackman & Jackman, 1983), reflecting the permeability of boundaries between social classes.

In addition to actual social mobility, meritocratic ideology makes the perception of social mobility even greater than the reality. To the extent that individuals attribute their upward mobility to their own abilities and efforts, they may believe that any capable and hard-working person can achieve the same thing (Kluegel & Smith, 1986). Despite the fact that most upward social mobility consists of only minor improvements in people's SES/class (Jackman & Jackman, 1983), instances of more extreme mobility—the traditional “rags to riches” story—may obscure the larger pattern of class reproduction. Unrealistic beliefs about social mobility are also fuelled by media and political actors obfuscating class as a social category, suggesting that virtually everyone is middle class, or silencing public discourse that frames social class as a basis of oppression (C. Brooks, 1994; Bullock, Wyche, & Williams, 2001; Ortner, 1998).

Consequently, many people are unaware of barriers to mobility and believe their society operates as a meritocracy (Jost, Pelham, Sheldon, & Ni Sullivan, 2003).

When class boundaries are unclear and when the possibility of crossing class boundaries is exaggerated, the likely result is that members of low-status groups – poor and working-class people – are less likely to use social class as a basis for collective identity. Therefore, it is possible that, for these groups, class-based identities do not conform to one of the core assumptions of collective identity theories, the expectation that overt self-categorization is a necessary first step in collective identification.

*Perceived legitimacy and stability.* In addition to the structural features of groups, intergroup relations can also influence the likelihood that individuals will categorize themselves as group members. Specifically, when relations between social groups are perceived as legitimate and stable, individuals may be more likely to categorize themselves as group members and to identify strongly with the group (Doosje, Spears, & Ellemers, 2002).

As well as influencing how we perceive the structural features of social classes, ideology and discourse can make relations between classes appear legitimate (based on individual merit) and stable (based on the supposedly uneven distribution of ability and effort in the population). When the social stratification system is seen as legitimate, individuals tend to blame themselves or their group for their lower position and to value the domain on which they are disadvantaged. In fact, members of low-status social groups do appear to be at least as likely as members of high-status groups to endorse system-justifying beliefs (Jost et al., 2003; O'Brien & Major, 2005).

Thus, the prevailing meritocratic ideology and the absence of competing discourses may make class groupings, when they are perceived at all, appear legitimate and lasting. Under these conditions, members of “lower” social classes would not be expected to express strong affiliation with their class or to engage in collective strategies for elevating their group’s status. Instead, they would be more likely to pursue strategies for individual upward mobility. There is no social-psychological research on this phenomenon. However, the decline in class-based political movements such as labour unions and socialist political parties (Fine & Burns, 2003) and the increased participation of “lower” classes in higher education suggest that the class structure is generally seen as legitimate and stable and that self-categorization is likely to be low for members of the working class.

*Perceived similarity to group prototype.* According to social-identity research, marginal and/or atypical members of a social category are less likely to categorize themselves as group members (Ashmore et al., 2004). Because many social categories do not have distinct boundaries, self categorization theory views membership in terms of perceived similarity to a group prototype rather than as an all-or-nothing proposition. Importantly, both the prototype and the individual's fit to it are considered highly changeable. Social categories can become more or less perceptually salient according to circumstances (a phenomenon discussed in a later section), and social categories themselves may change as individuals actively construct them in every situation (Huddy, 2001; Onorato & Turner, 2001).

Indeed, it is difficult to imagine single, unchanging prototypes for categories as broad as social classes. For example, a middle-aged male construction worker might be seen as the prototypical working-class person, but so might a young female hairdresser. It may be more productive to think in terms of multiple prototypes that take into account differences based on gender, ethnicity, accent, and occupation, to name a few likely sources of variation in class prototypes. Alternatively, individuals may be able to report how closely they resemble the average or typical group member, without having to specify the contents of their subjective prototype.

Group members differ in the strength of their perceived fit to a group prototype (Onorato & Turner, 2001). For example, Bullock and Limbert (2003) found that poor women who were pursuing upward mobility through college education perceived themselves as different from other poor women and believed (to an unrealistic degree) that they would be able to achieve upward mobility because of these differences. Lawler's (1999) interviews with women from working-class origins revealed that they interpreted their current middle-class status as inevitable self-actualization. They made sense of their upward social mobility by reading the "germs" of middle-classness into an earlier time, an earlier identity" (p. 10). Grella (1990) found that middle-class women who experienced downward mobility following divorce often retained their middle-class identification even though the material indicators of middle-class status had been lost.

All of these women, by emphasizing how they differed from other women with similar material circumstances, seem to be avoiding the full psychological impact of identifying with a "lower" social class. It may be that upwardly mobile people in general are unlikely to see themselves as similar to a working-class prototype. If so, working-

class university students may separate their self-identity from that group by emphasizing their individual qualities and aspirations that fit better with a middle-class prototype. In contrast, working-class students who do see themselves as typically working class may find it more difficult to fit into the middle-class environment of the university. These examples illustrate how differences in an individual's fit to a class prototype may influence the odds that they will self-categorize as a class member.

*Summary of self-categorization element.* Self-categorization is generally seen as the most fundamental basis for collective identification. However, self-categorization is a complex phenomenon that is influenced by the social status of the group in question, the clarity and permeability of group boundaries, the legitimacy and stability of relations between groups, and the individual's perceived similarity to a group prototype. Members of "lower" social classes may be less likely to categorize themselves as group members because: (1) their group has low social status; (2) there are no clear divisions between classes and social mobility appears even more common than it is; (3) meritocratic ideology makes class stratification seem fair and inevitable; and (4) class-based prototypes and individual self-perceptions are subject to many sources of variation. Thus, belonging to a given social class, and particularly to a "lower" class, seems unlikely to be a basis for strong or overt self-categorization.

There are also other reasons to expect that people may not have a strong overall identification with their social class. One reason is that the same group characteristics that are likely to reduce self-categorization as a social-class member – such as unclear and

permeable class boundaries – may also reduce the individuals' perception that their social class is an important collective identity.

### *Explicit and Implicit Importance*

The importance of a collective identity refers to its significance or centrality as a feature of the self system. More important collective identities are thought to be more influential on attitudes and behaviour in identity-relevant contexts (Ashmore et al., 2004). The importance of a collective identity can be viewed in both explicit and implicit terms. Explicit importance refers to the subjective appraisal of the importance of the collective identity in one's overall sense of self (Ashmore et al., 2004). For the same reasons that membership in a "low" social class is unlikely to be the basis for overt collective identification, it seems unlikely that most individuals would rate their membership in a "low" social class to be important or central to their sense of self. On the other hand, middle-class people might rate their membership in this higher-status group as relatively important to their sense of self.

Implicit importance is the subconscious placement of a collective identity in one's hierarchical self-system (Ashmore et al., 2004). The concept of implicit importance is not particularly well developed in psychological identity research. However, critiques of mainstream psychology's individualism and universalism led Oyserman and Markus (1993) to develop a model of the self that highlights the implicit importance of sociocultural factors in self-identity. Because the influence of sociocultural factors is so pervasive, they often operate outside conscious awareness, influencing the "implicit and unexamined meanings" (p. 189) contained in everyday values, goals, and assumptions.

In sociology, the “new class theorists” (e.g., Lawler, 1999; Reay, 2004; Skeggs, 1997) also believe that social class has powerful effects on people’s lives but that these effects often go unrecognized as class phenomena. Instead of seeing classes as distinct or explicit groupings in economic conflict with one another, these theorists view class as a set of cultural, individualized, and implicit phenomena (Bottero, 2004). Rather than explicitly identifying with a particular class, people may be more likely to reveal their class affiliation indirectly by endorsing goals, values, and attitudes typical of people with the same class origins.

The sociocultural turn in social psychology and the new class theory in sociology make it possible to see why class identities may be low on explicit importance but high on implicit importance. It may be that social class operates quietly in the backdrop of life, at least until circumstances, such as attending university, bring it more into conscious awareness. One operationalization of this idea of changing implicit importance is the construct of identity salience (Ashmore et al., 2004).

*Salience.* Salience is a theoretically grounded concept with a long tradition in identity research. In both psychology and sociology, salience is considered a powerful influence on an identity’s overall level of importance in the self system. The more salient a given identity, the more important and influential it is in the person’s self-definition and behaviour.

In sociology, salience is often seen as a form of identity importance that refers to the accessibility of that identity in conscious awareness as well as the resulting tendency to act on the basis of that identity. For example, Stryker argues that a given identity’s

salience within the hierarchical self system is determined by the probability that it will be invoked or enacted in a given situation or across a range of situations (see Cassidy & Trew, 2004; Hogg et al., 1995; Thoits & Virshup, 1997).

In Stryker's theory, salience is defined behaviourally. Often, researchers simply ask participants how often or how soon they mention a given identity when meeting someone new (Ashmore et al., 2004). This type of index seems problematic. There are many reasons for a person to mention an identity other than its salience for the self system, particularly when meeting someone new. For example, social convention often dictates the types of things we do and do not mention when meeting new people. In addition, some identities are too obvious to mention (e.g., gender, "race"), whereas politeness dictates that others, such as social class, should be inferred from appearance, speech, or occupation. Moreover, people may deliberately hide a low-status identity when meeting higher-status people. In this situation, the low-status identity would be very salient for the low-status individual but would not score high on a behavioural index of salience. A social-psychological approach focused on individual perceptions seems more appropriate to the study of class identity.

Like sociologists, social psychologists also assume that salience determines how influential an identity will be for the person overall or in a given context (Thoits & Virshup, 1997), but they have focused more on cognitive awareness in defining and measuring salience. In a given context, people will look for and use social categories that are accessible to them as perceivers and that fit with their experience and understanding of the social field (Hogg & Terry, 2000). When a collective identity is activated, aspects of the self-concept that are shared with group members, that make one a "good"

representative of the group, become more salient (Brewer & Gardner, 1996). Clearly, the psychological approach to identity salience depends heavily on the subjective interpretation of situations.

One situational influence on identity salience is minority status. People in general tend to feature distinctive aspects of themselves in spontaneous self-descriptions, and groups that are in a numerical minority with regard to language, skin colour, and religion are most likely to have ethnicity at the core of self-identity (see Oyserman & Markus, 1993). According to optimal distinctiveness theory (Brewer, 1991), individuals whose collective identity places them in any type of numerical minority tend to find that identity more salient. Belonging to a larger group tends to provide less distinctiveness, so categories that include most people in a given situation are not differentiated enough to be meaningful as bases for collective identity. For example, in most university settings, “middle-class student” is probably too large a category to provide for distinctiveness, whereas “working-class student” may be a small enough category to make the group distinctive and to allow collective identification to emerge.

Another situational influence on salience is the degree of perceived difference between the minority individual and the majority; the greater the difference, the more salient the minority status is likely to be (Brewer, 1991, see also Bourdieu & Passeron, 1990). In self categorization theory, prototypes of category members consist of similarities among group members as well as differences between groups, so prototypes are affected by which outgroup is salient for comparative evaluation (Hogg et al., 1995). Therefore, one would expect that students who perceive themselves as more

disadvantaged relative to their middle- or upper-class peers are likely to find their class identity more salient.

The situational approach to salience seems well-suited to the study of collective class identity in the university setting. Intergroup situations are assumed to make the collective self more salient and to promote collective identification, whereas intragroup contexts are assumed to make the personal self more salient and to promote disidentification from the group (Gaertner, Sedikides, Vevea, & Iuzzini, 2002). This may be why social class is seldom a salient feature of personal identity. Because schools, neighbourhoods and social networks tend to be fairly homogeneous with respect to socioeconomic status, most people see themselves as average and fail to perceive the full social hierarchy (Bottero, 2004). As documented in the writing of “working-class academics” (e.g., Dews & Law, 1995) and in studies of poor and working-class students (e.g., Zwerling & London, 1992), it is often the new, intergroup context of the university that first makes socioeconomic differences apparent, and class-based identities salient.

There are few studies that directly link identity salience to higher-education outcomes. One study found that lower salience of ethnic identity was associated with higher grades (Sandoval, 1997). Latino/a students who attended predominantly Latino/a high schools (low ethnic-identity salience) earned significantly higher GPAs overall than those who attended predominantly “Anglo” schools (high ethnic-identity salience). Sandoval’s findings suggest that the demographic composition of a school can influence academic outcomes by producing varying degrees of identity salience, and that student performance can be hampered by a salient minority identity.

There is also some experimental evidence that situations in which students' "lower" class background is made salient can negatively affect their academic performance. Negative stereotypes about the intellectual abilities of certain stigmatized groups create a "stereotype threat" for individual group members because they fear confirming the stereotype. Members of intellectually stigmatized groups (e.g., African Americans in any school setting, women in a math class) tend to perform worse when they are told that a test is diagnostic of ability, but non-stigmatized groups perform equally well under diagnostic and non-diagnostic conditions (Steele, 1997). These findings have been replicated with poor and working-class youth, whose average performance was lower when their class was made salient before taking a diagnostic aptitude test (Croizet & Claire, 1998; Croizet, Dutrevis, & Desert, 2002).

In both stereotype-threat research and in Sandoval's ethnic-identity research, perceived identity salience was assumed on the basis of situations, but not directly measured. Therefore, this research does not provide an explicit test of the salience of a stigmatized ethnic or class identity. Nevertheless, it does suggest that when stigmatized minority identities and negative class stereotypes are salient, as they may be in some universities, the performance of working-class students may suffer.

Qualitative accounts also suggest ways in which a salient working-class identity may impede academic performance. For example, attending an institution where most students are middle or upper class seems to make class differences especially salient for poor and working-class students (Granfield, 1994; Marantz Cohen, 1998; Ostrove & Stewart, 1998). Ironically, this salience may be reinforced when working-class students alter class markers to "pass" as middle-class. When working-class students hide their

backgrounds, individuals may perceive their group as even smaller and their socioeconomic differences as more salient because they are prevented from forming social bonds with students from similar backgrounds. Without social bonds or a class discourse for support (Kuriloff & Reichert, 2003), students may ascribe their class-based differences to personal deficits, perhaps making them feel "like individually flawed 'losers'" (Bettie, 2000, p. 25) rather than people who simply have had relatively few advantages in the educational domain.

Overall, the importance that individuals ascribe to a given collective identity is thought to influence identity processes and outcomes. Membership in lower-status groups such as the working class seems unlikely to be explicitly important in the individual's self-system. However, it may be implicitly important because it imperceptibly contours so many aspects of experience. Salience, an aspect of a collective identity's implicit importance, is thought to change with situations and individual perceptions. For example, situations in which one's group is in the minority may increase identity salience. This could have negative consequences for working-class students, whose group is stigmatized in some universities. On the other hand, seeing oneself as different from prototypical members of one's minority group may decrease that identity's salience. This could have positive consequences for working-class university students if they believe that their own upward mobility makes them different from other working-class people.

As implied in the discussion of the first two elements of collective identity, self-categorization and importance, the perceived status of a group affects the extent to which people identify as group members. Indeed, the evaluation of social groups features quite prominently in theoretical and empirical work on collective identity.

*Evaluation*

As implied above, collective identity often incorporates an evaluation of one's group and feelings associated with that evaluation or with the group more generally. Evaluation is often considered one of the core elements in determining the overall level or strength of a given collective identity. Public and private regard are two constructs used to capture how a collective identity is evaluated by oneself and by others (Luhtanen & Crocker, 1992). Private regard refers to one's personal evaluation of, or regard for, the ingroup, whereas public regard refers to one's perception of how others evaluate or regard the group.

Importantly, individuals' public and private evaluations of their group are not always related, particularly for groups that are devalued in society. According to social identity theory, members of low-status groups should attempt to maintain a positive self-evaluation by offering positive evaluations of their ingroup when they are in intergroup contexts. On the other hand, intergroup contexts may make it difficult for members of low-status groups to openly deviate from the social consensus that their group has low value (Ashmore et al., 2004).

One study (Ellemers, van Dyck, Hinkle, & Jacobs, 2000) tested this by asking participants to rate their group's performance. Participants were members of two sports teams, and the researchers first measured individuals' perceived public regard to determine if they believed their team had high or low status. After performing an experimental task, participants conducted evaluations of both groups' performance either privately or with outgroup members present. As the authors expected, and against the predictions of social identity theory, participants who thought their team had low status

expressed more ingroup favouritism in their performance ratings when they were in private than when they were in public. They privately valued their group, but refrained from expressing their true evaluations in intergroup contexts. In contrast, participants who thought their team had high status did not change their performance ratings in private and public contexts.

In a second study, Ellemers and colleagues (2000) led students to believe their group had either low or high status by telling them that people from their university performed either better or worse than students at another local university in their job placements. The researchers also measured the degree of each student's identification with his or her university. The students performed five experimental tasks and were then asked to evaluate both groups' performance on these tasks, either in front of ingroup members or in an intergroup context. Among members of the low-status group, low identifiers favoured their group in the intragroup context, but not in the intergroup context. In contrast, high identifiers favoured their group in the intergroup context, but not in the intragroup context. The authors conclude that, overall, members of low-status groups adapt evaluations of their group to the social context, even though they privately believe their ingroup to be as good as, or better than, relevant outgroups (Ellemers et al., 2000).

As noted earlier, poor and working-class people sometimes do seem to evaluate their own group more favourably than they are evaluated by others (e.g., Bullock, 1999a; Gorman, 2000; Jackman & Jackman, 1983). However, Ellemers and colleagues (2009) also showed that individuals' degree of group identification affected their evaluations. There is no research linking individuals' degree of class identification with their private

regard for their class or their perceptions of the public regard for their class. Of course, belonging to a low-status experimental group is very different from belonging to a low-status group in life, so it would be premature to make predictions based on Ellemers and colleagues' research. Nevertheless, their studies do highlight the importance of group status, strength of identification, and evaluative context in assessments of public and private regard.

#### *Attachment and Sense of Interdependence*

In addition to self-categorization, importance, and evaluation, another key aspect of collective identity is the degree to which it is based on a sense of belonging or attachment to the social category in question (Ashmore et al., 2004). Theorists have proposed a fundamental human need for social belonging that underlies this process (Simon & Klandermans, 2001). When a given group is seen as part of the self-concept, people often become attached to that group, and some theorists have even suggested that the group becomes part of the self (e.g., Tropp & Wright, 2001).

Attachment is important because it moves beyond mere cognitive self-categorization to discover how much emotional significance the person attaches to the fact of belonging to a given group. Jackman and Jackman (1983) considered attachment more important than any other factor in establishing whether a person's subjective class identification was merely "a dry datum in the person's mind" or "a basis for affective bonds and interpretations of social life" (1983, p. 42). They defined attachment in terms of positive and negative feelings as well as affinity. They asked participants to rate: 1) how warm or cold they felt, and 2) how close they felt toward each of five social classes.

Poor and working-class people reported somewhat stronger attachment to their own class than middle-and upper-class people did to theirs. In addition, members of all classes were more attached to their own class than to other classes, but this ingroup preference was strongest for the poor.

These findings are not entirely consistent with the social identity literature, where attachment generally appears to be independent of both self-categorization and of the evaluation of the group. That is, people can demonstrate affective attachment to groups in which they do not claim membership and/or do not evaluate positively (Ashmore et al., 2004). However, Jackman and Jackman (1983) were more interested in comparing people's attachment to their own and other classes, rather than the association between people's attachment and their evaluation or overall level of identification. Despite being superficially similar, categorizing oneself as a group member, feeling emotionally attached to a group, and evaluating the group appear to make separate contributions to overall collective identity.

Along with emotional attachment to the group, Ashmore and colleagues (2004) include sense of interdependence, also known as mutual fate, as part of one's overall sense of connection to the group. Mutual fate is the perception that, despite individual differences among group members, one's opportunities and outcomes in life are intertwined with those of others group members. In both psychological and sociological theory, the perception of mutual fate is considered a precondition for members of social groups to take collective action to improve their group's status (Crompton, 1993; Hogg et al., 1995).

In essence, mutual fate is the opposite of individual mobility. For members of low-status groups, unless individual mobility is impossible or they are strongly identified with their group, they are more likely to pursue individual mobility than collective action to enhance their status (e.g., Barreto et al., 2004; Ellemers, 2001). For poor and working-class university students, education is a step toward individual mobility, therefore they would not be expected to perceive a high degree of mutual fate with other poor and working-class people.

It is possible that strong psychological attachment to a “lower” social class is inconsistent with students’ sense of belonging in higher education. As previously noted, many poor and working-class university students come to feel as though they do not fully belong anywhere. Higher education can create a cultural distance from old friends and family members, while socioeconomic disadvantage prevents them from fully integrating into the middle-class campus culture (e.g., see Zwerling & London, 1992). One potential influence on whether or not a person feels strongly attached to his or her social class is the degree to which key personal relationships are tied to class membership, a factor known to identity researchers as social embeddedness.

### *Social Embeddedness*

The social embeddedness of a collective identity refers to the degree to which important and/or numerous interpersonal relationships are dependent on being a group member. This is often operationalized in negative terms—the more costly or painful the loss of a given identity, the greater its presumed social embeddedness. This construct is a core part of Stryker’s sociological identity theory, where it is known as identity

commitment. If an individual with high identity commitment gives up the identity, it has the potential to negatively affect many of his or her relationships and/or important relationships (Cassidy & Trew, 2004).

Generally, people do tend to associate with others in their current social class (Argyle, 1994). Middle-class students entering the middle-class university environment may lose some relationships, but not because of a shifting class identification. In contrast, working-class students' explicit upward mobility into a "higher" social class may make leaving behind old friends and perhaps family members almost inevitable (see Piorkowski, 1983; and Ross, 1995, for a clinical perspective). The stronger working-class students' embeddedness in their social class to begin with, the more a changing class identity is likely to entail leaving behind important relationships and/or large numbers of relationships.

Judging from accounts of working-class students in higher education, class-based identity concerns seem to revolve importantly around maintaining existing relationships and developing new ones. These students often express conflicting loyalties as well as fears that they will be rejected if they do not display the correct markers of class identity, both in the university setting and back at home (e.g., Granfield, 1994; Lopez & Hasso, 1998). Working-class students may avoid these tensions by deliberately choosing a less prestigious university, where they will feel more at home and risk less identity change (Jetten et al., 2008). Some working-class graduates attempt to remain socially embedded and reduce the guilt associated with upward mobility by using their education to "give something back" to their home communities through employment or activism (see Archer & Leathwood, 2003b; Granfield, 1994; Marantz Cohen, 1998; Reay, 1996).

*Summary of Proposed Elements of Collective Identity of Social Class*

In sum, I have argued that five elements identified in the collective-identity literature may have particular relevance for the collective identity of social class: self-categorization, importance, evaluation, attachment, and social embeddedness. It is important to consider the characteristics of the social groups involved when conceptualising and measuring collective identities. For identities based on social classes, certain group characteristics make this particularly challenging. For example, the lack of clarity about group boundaries, the possibility of social mobility, and the tendency to avoid identifying with low-status groups complicate the development of a class-identity construct. Nevertheless, this multidimensional conceptualisation provides an opportunity to more fully examine the nature and structure of collective class identity from a psychological perspective.

In addition to the five elements that I include in my conceptualisation of the collective identity of social class, Ashmore and colleagues (2004) identified two other elements of collective identification – behavioural involvement in the identity, and the content and meaning of the identity. I include neither in my conceptualization of the collective identity of social class and explain why below.

*Behavioural Involvement*

In social identity theory, collective identity is assumed to be stronger for those whose actions reflect the identity in question. These individuals are said to have a higher degree of behavioural involvement in the identity. For example, displaying group membership (e.g., wearing a team jacket), enacting social roles related to the identity, and

demonstrating language proficiency have all been used as indicators of behavioural involvement in a collective identity (Ashmore et al., 2004).

Measures of behavioural involvement must take into account not just personal preferences for enacting an identity but also opportunities to do so. For example, the amount of time spent enacting the identity “student” depends on the time required for other roles, financial circumstances, and societal expectations, among other factors. As noted earlier, differences in social, economic, and cultural resources may influence behavioural involvement in the student role. It may be that class identity, by shaping personal preferences and opportunities, also influences involvement in the student role, a possibility I return to in discussing student engagement.

However, when it comes to involvement in class identity itself, behavioural measures may not be suitable indicators. Behaviours such as voting and union membership are unreliable indicators of class identity (Gerteis & Savage, 1998). Class-related pastimes, accent, dress, and so on are too variable across time and location to be reliable behavioural indicators of class. Moreover, people may enact identity-related behaviours for motives that are unrelated to their level of identification with the group (see Ashmore et al., 2004). For these reasons, behavioural involvement does not seem to be an appropriate index of the collective identity of social class from a social-psychological perspective.

### *Content and Meaning*

The final element of collective identity discussed by Ashmore and colleagues is the content and meaning of a collective identity. Content and meaning are based on three

related constructs: self-attributed characteristics, narrative, and ideology (Ashmore et al., 2004). Self-attributed characteristics are features of the social group that individuals ascribe to themselves. Certain characteristics are more closely associated with particular social classes. For example, poor and working-class people tend to perceive themselves as more family-oriented and more down-to-earth than middle- and upper-class people, who, in turn, tend to see themselves as more open-minded and ambitious than poor and working-class people (Cozzarelli et al., 2001b; Kirby, 1996; Lott & Saxon, 2002). Members of each class appear to be aware of, and sometimes share, the stereotypes that others have about them (Croizet & Claire, 1998; Gorman, 2000). Moreover, individuals are more likely to attribute group characteristics to themselves when the relevant collective identity is salient. Therefore, the self-attributed characteristics of class members could be important if class identity becomes more salient in the university environment.

The second component of the content and meaning element is narrative, which refers to the individual's internally represented story of the social group (Ashmore et al., 2004). Diversity within social classes makes it unlikely that a single narrative could capture the history of a given social class. Even if it could, the history of poor and working-class people and of class struggle is not generally taught in schools (Zandy, 2001; Zinn, 1998). Instead, the middle- and upper-class histories that dominate curricula are part of the unexamined hegemony of these groups and are therefore not presented in classed terms. This suggests that the group-history aspect of narrative is an unlikely feature of most people's class identity.

On the other hand, narrative also includes the story of oneself as a group member, which is in evidence in many qualitative accounts of poor and working-class people who pursue higher education. Themes include divided loyalties, shame, striving against the odds, and lack of belonging. In most cases these accounts have been produced retrospectively by people who have experienced a transition in class identity (e.g., Karp, 1986; Lubrano, 2003; Ostrove & Stewart, 1998; Ross, 1995), although some people seem able to reflect on such a transition while it is still in progress (e.g., Orbe, 2004). Further research is needed, but it seems that this component of the narrative element of collective identity could ultimately be included in a quantitative measure of class identity.

The final component of the content and meaning element is ideology, which refers to individuals' beliefs about their group's history and experiences over time (Ashmore et al., 2004). This has been a focus of identity research with various oppressed and marginalized groups. Themes include assimilation, separatism, intergroup contact, and conflict. As noted earlier, there has been a decline in class-based discourse and social movements in recent decades, and the dominant meritocratic ideology leaves little room for class-based understandings of socioeconomic inequality. Therefore, it seems unlikely that ideology, as described by Ashmore and colleagues, will be a common thread in class identity. At the same time, meritocratic ideology helps to sustain class reproduction. As long as people believe that socioeconomic position is based on merit rather than advantages of birth, socioeconomic inequality remains part of the accepted fabric of life rather than a social problem to be addressed. Therefore, although I did not include ideology as an element of class identity, I did systematically investigate the relation between people's endorsement of meritocracy and their class identification.

Before describing in detail the development of the Collective Identity of Social Class scale, I review key factor-analytic studies and theoretical developments in the collective identity literature. This research provides a context in which to situate the many elements of collective identification. The literature shows some consistency in identifying three broad dimensions of collective identities. However, it also underscores the need to develop a measure that is specific to class-based collective identity.

#### *Factor-analytic Studies of Collective Identity Structure and Content*

The review and synthesis of the collective identity literature by Ashmore and colleagues (2004) is among the most comprehensive available. As these authors point out, collective identity is a wide-ranging construct that is sometimes invoked by researchers with opposing theoretical inclinations and predictions. These same researchers are responsible for identifying and operationalising the various elements of collective identity. Therefore, it is unlikely that a single instrument for measuring the collective identity of social class will ultimately include all of the elements identified.

A number of studies have used factor-analytic methods to investigate the dimensionality of collective identities and extract a smaller, more manageable number of core elements. Several of these have resulted in a multidimensional, three-factor structure of collective identity. For example, Ellemers, Kortekaas, and Ouwerkerk (1999, cited in Cameron, 2004) analyzed minimal-group studies and determined that self-categorization, evaluation, and commitment (wanting to remain a group member) best represented group identification in experimental settings. Jackson (2002) analysed participants' responses to

78 items that referred to their self-selected natural group memberships and found three similar factors: self-categorization, evaluation and perceived solidarity and common fate.

Cameron's (2004) five studies of Canadian and Australian undergraduates and Australian citizens provides further support for a three-factor, multidimensional collective identity. Using confirmatory factor analysis, he determined that factors labelled centrality, ingroup affect, and ingroup ties best represented the natural collective identities (gender, nationality, and university identity) he examined. In a follow-up study (Obst & White, 2005), Cameron's scale performed better than a competing, two-factor model for identities based on gender, being a student, and being a member of an interest group.

Cameron's (2004) centrality factor referred to both the cognitive accessibility of the collective identity (how often it comes to mind) and to its subjective importance for the self, incorporating elements of Ashmore and colleagues' (2004) self-categorization, explicit importance, and implicit importance (salience) elements. His ingroup affect factor is similar to Ashmore and colleagues' attachment element, capturing positive and negative emotions associated with belonging to the group. Finally, his ingroup ties factor refers to the degree to which group members feel part of ("stuck to") their group (p. 243).

These factor-analytic studies each used somewhat different labels and operationalizations for the core collective identity factors they derived. Nevertheless, three factors appear to emerge with some consistency: self-categorization, evaluation, and group connection. First, Jackson (2002) and Ellemers and colleagues (1999) found self-categorization to be a core component of collective identity in both minimal and natural groups, and Cameron's (2004) centrality includes a cognitive component that at least

implies that self-categorization is taking place. Second, Jackson, Ellemers and colleagues, and Cameron all found a factor based on positive and negative feelings and thoughts about the group, similar to Ashmore and colleagues' (2004) evaluation and attachment elements. Finally, Ellemers and colleagues' commitment, Jackson's solidarity/common fate, and Cameron's ingroup ties all suggest a desire or need to remain connected with the group.

These studies contribute to our understanding of the dimensional structure of collective identities but they have some shortcomings in terms of understanding class identity. For example, Ellemers and colleagues (1999) analysed only laboratory-based identities, which can differ considerably from naturally occurring identities. Jackson (1999) analysed naturally occurring identities, but his participants were instructed to answer in terms of identities that they considered "especially important and valuable" (p. 20), so his results may not generalize to identities that are subjectively less important or valuable. Cameron (2004) also studied natural identities (gender, nationality, and university identity), but none was as clearly status-related as social class, and group status is thought to influence many identity structures and processes. Taken together, these factor-analytic studies lay important groundwork in understanding collective identities in general, but it seems preferable to remain open to the possibility that they may not accurately represent the content or structure of class-based collective identities.

Taking a completely different approach to the dimensionality of collective identities, Deaux (1993; 1995) has investigated the nature of the identities themselves. Her research responds to the criticism that social identity research treats all social groups as theoretically equivalent (Thoits & Virshup, 1997), including groups based on ascribed

sociocultural categories such as class and race, groups that are deliberately chosen and whose members interact, and laboratory-based “minimal groups.” Deaux has found five clusters of identity types (relationships, vocations and avocations, ethnic and religious affiliations, political affiliations, and stigmatized groups) and at least three psychological dimensions that differentiate them (achieved-ascribed, publicly or privately defined, and good-bad evaluation). Further work is needed to elaborate the types, functions, and interrelations of collective identities, but Deaux’s research highlights the need to re-theorize identity processes and structures to accommodate specific types of collective identities, including those based on social class.

#### *Dimensions of the Collective Identity of Social Class Scale*

As the discrepancies in the previous research highlight, the most relevant elements for a measure of collective identity of social class are not yet known. Given that social-class identity is a new area of psychological investigation, it is important not to prematurely limit the number of elements under investigation. Nevertheless, my review of research on collective identity factors suggests that three broad dimensions – self-categorization, evaluation, and group connection – may subsume most of the other collective identity elements.

#### *Self-categorization*

From the preceding review of collective-identity elements, it seems unlikely that overt self-categorization would constitute a core aspect of class identity, particularly for members of “lower” classes. Nevertheless, self-categorization is considered such a

fundamental aspect of collective identity that it is worth investigating whether a new measure can add to or improve upon existing methods. Specifically, the aim is to measure the strength of people's identification with the social class to which they belong, rather than inferring their class membership from other indices or asking them to state to which class they believe they belong.

In some cases, people may not be sure if they belong to a particular social category. This uncertainty may underlie some of the discrepancy between people's subjective class placement and their objective class based on socioeconomic indicators. The issue of uncertain identity has been explored in terms of confusion over gay and lesbian identity (Mohr & Fassinger, 2000). Sources of identity confusion for homosexuals include questioning their own sexual preferences, which is reminiscent of the divided self experienced by working-class students in the middle-class university environment. Homosexuals may also experience identity confusion if they do not acknowledge their own sexuality because they fear negative evaluation by others, if they feel ambivalent about admitting a change in sexual identity, or if they are unsure about the criteria for being considered homosexual. All of these sources of identity confusion have rough parallels in class identity and bear further investigation.

In addition to the certainty of one's self-categorization as a class member, four other identity elements seem related to self-categorization: explicit importance, implicit importance, salience, and similarity to a group prototype. Explicit importance refers to one's subjective assessment of how central a given group identity is to one's overall self system. Implicit importance refers to the subconscious ranking of a given collective identity among all the collective identities that comprise one's self system. Measures of

implicit importance are not yet well-developed, but it may be possible to infer the implicit importance of a collective identity from individuals' endorsement of attitudes, goals, and values that characterize members of their own social class. Identity salience is considered a form of implicit importance. It refers to the cognitive awareness of the identity, which may increase when one's group is in a minority and when one's differences from the majority are more distinctive. A final aspect of self-categorization is the individual's similarity to a group prototype. Social classes do not necessarily have well-defined or widely shared prototypes, but it may be possible to invoke individuals' subjective class schemas and establish their perceived similarity simply by asking how typical or similar they are in relation to other class members.

### *Evaluation*

The second broad dimension of collective identity that I propose is the individual's positive or negative evaluation of the group. Evaluation includes both private regard and public regard. In the social-identity literature, evaluation is often assumed to include both cognitive and emotional assessments of the ingroup (see Ashmore et al., 2004). Luhtanen and Crocker's popular measure of public regard, the Public Collective Self-esteem subscale, contains cognitive assessments of the group. However, their Private Collective Self-esteem subscale does not include cognitive assessments. Instead, it measures feelings about belonging to the group ("I often regret that I belong" and "I'm glad to be a member") and feelings about the group's value ("I often feel [that my group is] not worthwhile" and "I feel good about the [group]") (1992, p. 307). Similarly,

Cameron (2004) includes ingroup affect as part of evaluation and does not measure cognitive assessments of the group.

Distinguishing cognitive and emotional evaluations of the group may be important, particularly in measuring identification with stigmatized groups. There is some evidence that cognitive and emotional evaluations of social categories are independent, particularly for low-status groups (Greenwald et al., 2002). Therefore, in developing and adapting items to measure the collective identity of social class, I define evaluation as cognitive assessment, and consider emotions regarding the group to be part of attachment. This may make it possible to examine the relation between individuals' cognitive and emotional assessments of their social class.

### *Group Connection*

The third broad dimension of collective class identity that I propose is group connection. People's desire or need to remain connected to their ingroup was identified in each of the three factor-analytic studies reviewed above. Jackson's (2002) mutual fate, Cameron's (2004) ingroup ties, and Ashmore and colleagues' (2004) attachment and sense of interdependence dimension are relevant for the measurement of class identity. These constructs capture feelings about belonging to the group and sharing a common fate with other group members.

Another part of group connection involves relationships with group members as opposed to the group as an abstract entity. Therefore, a version of Stryker's social embeddedness construct seems appropriate (see Cassidy & Trew, 2004). Here, it refers to

the number and importance of relationships tied to the individual's class membership, as well as the risk of losing relationships if the individual's social class changes.

### *Content and Meaning*

Finally, I do not include measures of the content and meaning of social class among the proposed dimensions of class identity. The content and meaning element of collective identities includes self-attributed characteristics, the narrative of oneself as a group member, and ideology (Ashmore et al., 2004). The first two have potential to shed light on class identity, but would benefit from further study before being incorporated a quantitative class-identity instrument. In terms of the ideological dimension, I have focused on attitudes toward meritocracy because of its relation to socioeconomic stratification. However, in contrast with some sociological approaches to class identity, I suggest that belief in meritocracy is independent of psychological identification with one's class, a point I elaborate further when I describe its measurement in Chapter 6.

### *Chapter Summary*

In this chapter, I have attempted to build a framework for understanding social class as a basis for collective identification. Researchers in sociology, education, and psychology have all contributed to this emerging understanding. However, there have been few attempts to synthesize their efforts in order to understand how socioeconomic backgrounds produce different levels of university achievement. In addition to the direct effects of socioeconomic status, I propose that an individual's social class can influence

academic outcomes psychologically as well, through the collective identity of social class.

Although processes related to collective class identity may mediate the effects of SES on academic achievement, it is important to consider other possible mechanisms. One identity-related construct that has received much attention from researchers is academic self-concept. Academic self-concept refers to a collection of academic self-beliefs and self-attitudes that predict academic achievement at all levels of education (Byrne, 1996). It may be that differential prior achievement of students from different socioeconomic backgrounds influences their academic self-concept, which leads to continuing achievement differences at the university level. On the other hand, academic self-concept may be one mechanism through which class-based identities influence university performance. In the next chapter, I review academic self-concept research and describe its suitability for the study of socioeconomic differences in postsecondary achievement.

## CHAPTER 3

## ACADEMIC SELF-CONCEPT

In the first chapter of this dissertation, I described how low-SES students are exposed to educational environments, experiences, and expectations that often differ from those of their higher SES counterparts. They tend to live in neighbourhoods where schools and other social services are under-resourced, and may lack access to educationally enriching experiences and social networks that encourage and support educational pursuits. It is well-established that these differences produce different educational choices and achievement at all levels of education, including the postsecondary level.

In the second chapter, I argued that SES alone may not account for these differences, and that collective identity of social class is a new construct with distinctive theoretical contributions to make in terms of explaining postsecondary outcomes. Specifically, I suggested that students who identify strongly as poor or working-class may struggle with academic achievement not only because they have had fewer resources and opportunities, but also because academic achievement at the university level entails a redefinition of self that is incongruous with their existing self-conceptions and social ties.

A plausible alternative hypothesis is that all students have ideas and feelings about their suitability and competence for academic endeavours, and that these self-conceptions affect academic outcomes. Students' academic self-conceptions may be influenced by their own prior experiences and achievements at school, as well as by socioeconomic factors that shape their sense of belonging in the university environment.

In this chapter, I review the theoretical and empirical foundations of academic self-concept and its causal relation with academic achievement. Research on academic self-concept has progressed tremendously in recent decades, but important questions remain unanswered. In particular, researchers have devoted relatively little attention to academic self-concept among university students or to the influence of socioeconomic status. My review draws on the available evidence to theorize the relations between SES, academic self-concept, and academic achievement in university students.

### *Academic Self-concept Definition*

General self-concept refers to people's views of themselves, their "attitudes, feelings and knowledge about [their] abilities, skills, appearance, and social acceptability" (Byrne, 1984, p. 429). Self-concept is based on perceptions that develop from one's self-attributions, interaction with significant others, and other experiences in the social environment (Byrne, 1996). A central assumption of self-concept theories is that people with a more positive self-concept see themselves as more effective, capable, and competent and consequently tend to accomplish more than those with a more negative self-concept (Marsh, Trautwein, Lüdtke, Köller, & Baumert, 2005).

Like general self-concept, academic self-concept links positive self-perceptions with accomplishment, but specific to the academic domain. Unfortunately, there are no consensual definitions of self-concept or academic self-concept in the literature. Instead, self-concept, self-esteem, and other related self-constructs are often used interchangeably (Byrne, 1996; Robbins et al., 2004; Valentine, DuBois, & Cooper, 2004). Guay, Larose and Boivin provide what appears to be a reasonable working definition of academic self-

concept as “an evaluative self-perception that is formed through experience with and interpretations of one’s school environment” (2004, p. 53), although non-school environments may also be important.

### *Self-concept and Academic Achievement*

Various theoretical rationales exist to explain why beliefs about the self should influence academic achievement. Most theories of self assume an underlying drive to maintain positive self-conceptions (Hogg & Abrams, 1988; Swann, Griffin, Predmore, & Gaines, 1987). This creates a dilemma for people with poor academic performance. Rather than admit that they may lack ability, people use a number of strategies to protect their overall self-esteem. For example, they may engage in self-handicapping behaviours such as procrastination or avoiding challenges. People may also use cognitive self-protective strategies such as attributing their successes to ability and effort, and attributing their failures to lack of effort rather than lack of ability. Paradoxically, such strategies can actually lead to low achievement while allowing overall self-esteem to remain high (Covington, 1998; Valentine et al., 2004).

Another way to maintain positive self-conceptions despite poor performance is to devalue the performance domain. The expectancy-value theory of achievement motivation (Eccles & Wigfield, 2002) details how the academic domain may become devalued. The theory proposes that socialization and past experiences influence individuals’ self-conceptions, which, in turn, influence the subjective value of the achievement domain as well as the individual’s expectancies for success in that domain. Success expectancies and subjective value influence achievement motivation. The

subjective value of an achievement domain is influenced by the subjective importance of performing well, intrinsic interest in performing the necessary tasks, the expected utility of task for attaining future goals, and psychological or other costs of engaging in the task. An achievement domain is devalued when its associated tasks are seen as unimportant, uninteresting, unrelated to one's goals, or too costly.

Thus, the expectancy-value model suggests reasons that the association between self-conceptions and academic achievement may differ across social classes. As described earlier, socialization and past academic experiences are more likely to orient middle-class students toward academic pursuits and achievement. This is likely to result in self-conceptions that are more consistent with academic achievement. These self-conceptions may then influence the value placed on the academic domain. Relative to middle-class students, working-class students may place less subjective importance on academic performance, have less intrinsic interest in academic tasks, expect academic achievement to have less utility for attaining their occupational goals, and incur higher economic and psychological costs associated with academic pursuits.

If students from poor and working-class backgrounds have a lower academic self-concept, this could result from their own prior performance, as lower SES is associated with lower academic achievement. In addition, even for students with strong prior performance, awareness that they belong to a low-achieving group may trigger negative achievement expectancies and reduce their current performance due to stereotype threat (e.g., Croizet et al., 2004). If markers of a "low" social class become more salient in university, this may trigger stereotype threat, which could potentially reduce academic self-concept and performance for working-class students.

In this brief review, I have described processes through which an individual's self-conceptions may influence his or her achievement. Self-conceptions can shape the value that individuals place on academic goals and tasks, their interpretation of academic success and failure, and their perceived and actual likelihood of academic success. In the next section, I review perspectives on the nature of academic self-concept, the causal direction of its association with academic achievement, and factors that may moderate that association.

### *Models of Academic Self-concept*

Shavelson and Marsh and their colleagues (e.g., Marsh, 1985; Marsh, Byrne, & Shavelson, 1988; Shavelson, Hubner, & Stanton, 1976) were the first to propose a multidimensional view of academic self-concept. The Shavelson model, as it became known, divided general self-concept into two major facets: non-academic self-concept (physical, social, emotional) and academic self-concept. The model further divided academic self-concept into subject-specific self-concepts (e.g., mathematics self-concept).

Early studies indicated that the prediction of academic achievement improved as the specificity of the self-concept construct increased. For example, Schreier and Kraut's (1979) narrative review of the literature concluded that the more specific the definition of self-concept or self-esteem, the better it predicts academic achievement. Similarly, a meta-analysis based on 128 cross-sectional studies found that more specific measures of self-concept predicted achievement better ( $r = .42$ ) than more general measures of self-esteem ( $r = .22$ ) or self-concept ( $r = .18$ ) (Hansford & Hattie, 1982).

Confirming these early findings, Marsh and his colleagues have reported the results of dozens of factor analyses on tens of thousands of participants (Marsh, 1984, 1985, 1992, 1993b; Marsh et al., 1988; Marsh & Shavelson, 1985; Marsh et al., 2005; Marsh & Yeung, 1998). Their work has focused on identifying the effects of math, English and other subject-specific academic self-concepts on the academic achievement of school children. Their general conclusion is that subject-specific facets of academic self-concept are moderate to strong predictors of matching subject-specific achievement.

Although his work is also based on the Shavelson model, Reynolds (1988; Reynolds, Ramirez, Magrina, & Allen, 1980) has a quite different perspective than Marsh on the dimensions of academic self-concept. Whereas Marsh's instruments measure mainly children's self-perceived competence in various academic subject areas, Reynolds' Academic Self-Concept Scale (ASCS; see 1988) measures various types of academic self-perceptions in postsecondary students. These include the connection between effort and grades, study habits, peer evaluation of academic ability, and doubt regarding one's ability.

Scores on the Academic Self-concept Scale are positively associated with academic performance in university. For example, in a sample of 589 undergraduates, scores on the ASCS correlated significantly with self-reported GPA ( $r = .52$ ) and verbal SAT scores ( $r = .15$ ) (Reynolds, 1988). In two relatively recent studies, scores on the ASCS correlated  $.27$  ( $p < .01$ ) with actual GPA in a sample of 147 undergraduates (Britt & Kim, 1996) and  $.38$  ( $p < .01$ ) with actual semester grades in a sample of 230 undergraduates (Choi, 2005). The ASCS also outperformed various measures of general and academic self-efficacy in these two studies.

Reynolds (1988) has also used the ASCS to investigate the issue of general versus more specific self-conceptions in predicting academic achievement. In a multiple regression analysis, he found that academic self-concept was a significant predictor of GPA ( $b = .19, p < .0001$ ) whereas general self-concept was not ( $b = -.10$ ). Thus, research using the ASCS has added to the evidence that moving from general self-concept to academic self-concept is beneficial in studying postsecondary academic achievement.

The authors of a recent meta-analysis did not study the academic self-concept construct specifically, but they too found support for the use of more specific self-constructs to predict postsecondary outcomes. In their analysis of 497 correlations from 109 published studies, Robbins and colleagues (2004) examined the link between a range of psychosocial and study skills variables and university achievement and retention. They found that the estimated true correlation between general self-concept and student retention and between general self-concept and GPA was zero. In contrast, academic self-efficacy, a construct related to academic self-concept, was the strongest of 11 psychosocial and study skills factors analysed. Its estimated true correlation with retention was .36 and with GPA it was .50 (Robbins et al., 2004). Overall, the evidence points to the conclusion that more specific self-constructs are more strongly associated with both academic achievement and persistence.

#### *Causal Relation between Academic Self-concept and Achievement*

The literature clearly demonstrates that academic self-concept and academic achievement are related, yet there is some debate as to whether self-concept should be viewed as a cause or outcome of academic achievement (Byrne, 1984; Marsh et al., 2005;

Scheirer & Kraut, 1979). Some contend that academic self-concept is causal, others that achievement is causal, and yet others that the relations are reciprocal.

Many studies have concluded that academic self-concept has a causal influence on academic achievement. For example, a series of early studies by Marsh and his colleagues (reviewed in Byrne, 1984) found that academic self-concept influenced achievement and that more specific measures of academic self-concept had a greater influence. Marsh (1990) provided further support for this conclusion with a series of longitudinal panel studies that sampled 1,456 students in grades 10, 11, 12, and one year after high school graduation. He found that students' grades in grades 11 and 12 were significantly influenced by academic self-concept measured the previous year, but that academic self-concept was not significantly influenced by prior grades. Guay and colleagues (2004) found that children's academic self-concept measured in grades 4 and 5 significantly predicted years of educational attainment up to the second year of postsecondary study (the maximum attainable during the study's 10-year time frame), above and beyond the prediction afforded by academic achievement and family SES.

In a meta-analysis of longitudinal studies that examined the effects of various types of self-beliefs on academic achievement, Valentine and colleagues (2004) found a small positive impact of self-beliefs on achievement when controlling for prior achievement, with an average effect size (standardized path coefficient) of  $\beta = .13$  for academic self-beliefs. To date, Valentine and colleagues have provided the only meta-analysis of this topic that analyses longitudinal studies quantitatively; others have provided only brief qualitative literature reviews (e.g., see Byrne, 1996; Marsh, 1993a). Valentine and colleagues' results do not prove a causal link from self-beliefs to

achievement, but they do provide stronger support than previous meta-analyses because they analysed prospective studies and controlled for prior achievement.

The evidence presented so far suggests that academic self-concept has a causal influence on achievement, but Byrne (1984) reviews some early studies that concluded that achievement has a causal influence on academic self-concept. For example, Bridgeman and Shipman (1978) conducted a longitudinal study of low-SES children. They found self-esteem tended to be high for all children in preschool, kindergarten, and first grade but grew more differentiated by grade three, when it came into alignment with their school achievement. They concluded that achievement has a causal influence on self-concept rather than self-concept influencing achievement.

Other studies also suggest that a consistent pattern of academic successes or failures can lead to changes in self-concept. For example, Calsyn and Kenny (1977, cited in Byrne, 1984) used causal modelling and found a significant causal link from achievement to self-concept among high school students. In a study of low-achieving college students, Centi (1965, cited in Byrne, 1984) found that students' self-concept declined when they received their first-semester grades and those who continued to underachieve showed diminishing self-concept over time, followed by further declines in achievement. In this early study, we see the seeds of a more complex, reciprocal conception of the relation between self-concept and achievement that characterizes more recent research.

Using structural equation modelling, Marsh and colleagues (2005) found that the causal relation between academic self-concept and achievement was reciprocal. In a study of 5,649 German seventh-graders, they measured the students' math interest, math

self-concept and math achievement (school grades and standardized test scores) at two points during the same school year. Prior math self-concept had a significant influence on subsequent math grades ( $\beta = .24$ ) and test scores ( $\beta = .09$ ), even after controlling for prior interest, grades, and test scores. Prior math test scores also had a significant influence on subsequent math self-concept ( $\beta = .06$ ), but prior math grades did not.

These findings were essentially replicated when the authors studied a similar sample across two school years (grades 7 and 8). The only difference was that prior math grades had a significant influence on subsequent math self-concept ( $\beta = .08$ ), but prior math test scores did not. The authors conclude that academic self-concept influences subsequent achievement, which in turn has a (considerably smaller) effect on subsequent academic self-concept (Marsh et al., 2005).

These findings of reciprocal causation between academic self-concept and achievement await replication in different academic subjects and with different populations. For the time being, the literature provides the strongest support for the causal effects of academic self-concept on achievement, but early evidence suggests a small but significant impact of achievement on self-concept as well. These questions will undoubtedly benefit from research on factors that are known to moderate the association between self-conceptions and achievement.

#### *Moderators of Academic Self-Concept*

A number of these moderators are particularly relevant to the present investigation: the type of achievement measure used, the specificity and type of self-concept measure used, the age or grade level of participants, and their socioeconomic

status. Valentine and colleagues (2004)<sup>4</sup> provide some of the most current and rigorous evidence on the effects of these moderators, because their meta-analysis included only longitudinal studies that had controlled for the effects of prior achievement. Their results provide the guiding framework for the following overview of research on each of these moderators.

Valentine and colleagues (2004) hypothesized that self-conceptions could have different effects on different types of academic achievement. They reasoned, for example, that if self-conceptions influence achievement via motivation and behaviour, they may have a greater effect on school grades (which depend on consistent effort), than on standardized tests (which require no effort beyond taking the test). Indeed, another meta-analysis (Hansford & Hattie, 1982) and a national longitudinal study of U.S. high school students (Marsh, 1990) found that self measures had a stronger average correlation with grades than with IQ. In contrast, Valentine and colleagues found only indirect support for their hypothesis. The type of achievement measure did not moderate the effect of self-conceptions on achievement. However, self-conceptions had a smaller influence on achievement measures that were more stable over time and a larger influence on achievement measures that were less stable over time. This helps to explain other findings that academic self-concept has a stronger association with school grades than with standardized test scores (e.g., Marsh et al., 2005), as the latter are relatively stable over time.

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<sup>4</sup> Although Valentine and colleagues (2004) use the term “self-beliefs” to encompass variables such as self-esteem, self-concept, and self-efficacy, I use “self-conceptions” for the sake of consistency with the rest of this dissertation. As Valentine and colleagues themselves note, these terms are often used interchangeably in the literature and the term used does not necessarily indicate which construct was used.

As with the type of achievement measure, the type of self-concept measure may also influence the association between self-conceptions and achievement. Consistent with the Shavelson model and its descendents, Valentine and colleagues (2004) found significant differences in the size of the effects of general, academic, and subject-specific self-conceptions on achievement. However, contrary to the Shavelson model, effect sizes were larger for overall academic measures ( $\beta = .16$ ) than for both global measures ( $\beta = .07$ ) and subject-specific measures ( $\beta = .06$ ).

Others have drawn similar conclusions. For example, Lent, Brown, and Gore (1997) tested various structural models of the associations among measures of academic self-concept, general self-efficacy, subject-specific self-efficacy and academic performance in a sample of university students. Reynolds' (1988) measure of overall academic self concept produced the only significant path ( $\beta = .31$ ) to overall term grades.

In two longitudinal studies (House, 1992, 1993), academic self-conceptions significantly predicted students' university persistence after four semesters, eight semesters, and four years. Specifically, three variables predicted persistence across the sample: self-concept of drive to achieve, self-concept of overall academic ability, and self-confidence in intellectual ability. Self-conceptions of mathematical ability and writing ability did not predict persistence in the 1993 study, but in the 1992 study, self-conception of mathematical ability predicted persistence for female students. Even though House did not use a standard measure of academic self-concept, his findings suggest that overall academic self-concept may be a more consistent predictor of persistence than subject-specific self-concepts for university students. In fact, this rationale is what led Reynolds (1980, 1988) to develop the Academic Self-Concept Scale;

he argued that subject-specific self-conceptions are not as relevant in university, when students can choose which subjects they wish to study and which to avoid.

In addition to the specificity of the self-concept measure, Valentine and colleagues (2004) tested whether the particular type of self-conception (e.g., self-esteem, self-efficacy, self-concept) moderated the effect of self-conceptions on academic achievement. However, when they controlled for the specificity of the self measure, the effect sizes of the various types of self-conception did not differ significantly. Valentine and colleagues (2004) tentatively concluded that the specificity of the self-concept measure is more important than the type.

The age or grade level of research participants may also moderate the relation between academic self-conceptions and achievement. Most academic self-concept research has relied on samples of school children, but academic self-conceptions appear to influence achievement at all ages and grade levels, including postsecondary. Valentine and colleagues (2004) found that age did not moderate the influence of self-conceptions on achievement, but they could not fully test the grade-level hypothesis because only four of the studies in their meta-analysis used postsecondary samples. Hansford and Hattie's (1982) meta-analysis found that self-conceptions and achievement were significantly associated at all grade levels. The average correlation was stronger for senior high school students ( $r = .27$ ) than for postsecondary students ( $r = .14$ ), but the restricted range of both self-conceptions and achievement in postsecondary samples may have attenuated the relation. In addition, research by House (1992, 1993) and by Lent, Brown, and Gore (1997) has demonstrated links between academic self-conceptions and university grades

and persistence. Overall, there are good indications that academic self-concept is an important predictor of achievement among postsecondary students.

### *Socioeconomic Status*

In addition to the types of measures employed and research participants' age or grade level, socioeconomic status has also been proposed to moderate the effect of self-conceptions on academic achievement as suggested in my earlier theoretical discussion. Hansford and Hattie's meta-analysis (1982) supported this hypothesis. They found that measures of self were not as strongly correlated with academic achievement in low-SES samples ( $r = .13$ ) as they were in middle- or high-SES samples (.25 and .22 respectively). However, in this particular analysis, Hansford and Hattie combined general and specific self-measures in this analysis and excluded postsecondary samples, so their findings have limited applicability.

Unfortunately, most research on the association between self-concept and achievement has controlled for the effects of SES rather than study them. For example, Guay and colleagues (2004) demonstrated that the academic self-concept of school children predicted their postsecondary attainment ten years later, even controlling for academic achievement and SES. The authors did not test for differences across SES levels, therefore their findings cannot address whether or not SES moderates the relation between academic self-concept and achievement. Even authors who wish to draw attention to SES differences in academic self-conceptions and achievement are often prevented from doing so by a lack of available research. For example, Van Laar and Derks's (2003) review of academic disidentification research notes that "ethnic, cultural,

religious, or socioeconomic groups” (p. 368) tend to be stigmatized in the academic domain, but they could not review findings on socioeconomic groups because of the dearth of research. Unfortunately, the same reason prevented Valentine and colleagues (2004) from testing SES as a moderator in their meta-analysis of self-concept and achievement.

Despite the lack of direct evidence that SES moderates the relation between self-conceptions and achievement, indirect evidence suggests it may. If SES does moderate the effect, one would expect the influence of self-conceptions on achievement to differ for students from different SES backgrounds. Although there is no research on this specific question, we can look at the relation between different types of self-conceptions and academic achievement across SES levels.

First, researchers have established that there is a small but significant positive association between SES or social class and general self-esteem (e.g., Francis & Jones, 1996; Gecas & Seff, 1990). Twenge and Campbell’s (2002) meta-analysis reported results from more than 300,000 participants in 446 independent samples. The authors concluded that SES has a small but meaningful effect on self-esteem ( $d = .14$  to  $.16$ ).

This research shows that lower-SES people have slightly lower overall self-esteem, but does not tell us if these less positive general self-conceptions are related to their academic achievement. Recall that according to various theories of self, people with low academic achievement may devalue the academic domain, effectively detaching their general self-conceptions from academic achievement. In contrast, academic self-conceptions cannot be as easily detached from academic achievement. Moreover, academic self-conceptions may also depend on social and cultural capital as well as

intellectual stereotypes. Low-SES students tend to have lower academic performance, less social and cultural capital, and may be intellectually stigmatized. This suggests that low-SES people may detach their overall self-conceptions from academic achievement, but they cannot detach their academic self-conceptions from their achievement. Therefore, SES may be more strongly associated with academic self-conceptions than with general self-conceptions.

Robbins and colleagues' (2004) meta-analysis of studies on university students supports this idea. They found that the mean correlation between SES and general self-conceptions was zero, but the mean correlation between SES and academic self-efficacy was significant (.35). In other words, lower SES was not associated with lower general self-concept, but it was associated with lower academic self-conceptions. These results provide indirect evidence that the influence of self-conceptions on achievement may differ for students from different socioeconomic backgrounds.

The moderating effect of SES also receives indirect support from research comparing racial groups, because of the overlap between racial categories and SES levels. Indeed, despite the fact that most low-SES people in Canada and the U.S. are of European descent, research on racial-ethnic minorities provides most of what is known about the effects of socioeconomic deprivation on educational outcomes (McLoyd, 1998).

Valentine and colleagues (2004) proposed that the link between self-conceptions and achievement may be stronger in certain racial-ethnic groups because cultural values and practices influence educational attitudes and achievement. Such reasoning could arguably be applied to social classes, which have been conceptualized as cultures with

their own educational values. Unfortunately, limited data prevented Valentine and colleagues from properly testing racial differences.

However, other researchers have found a stronger association between self-conceptions and academic achievement in White students than in Black students and some other minority groups. For example, Hansford and Hattie (1982) found the average correlation between general self-conceptions and academic achievement was .33 in “Anglo” samples, .23 in “Chicano” samples, and .19 in African American samples. Research on racial differences is no substitute for research on SES differences. Nevertheless, these findings suggest that the association between academic self-concept and achievement may differ across cultural groups.

Overall, some indirect evidence indicates that SES may moderate the association between self-conceptions and academic achievement, but the research is sparse and inconclusive. In fact, we know very little about the association between SES and academic self-concept. We know that, in postsecondary students, SES has a small positive association with general self-esteem (Twenge & Campbell, 2002) and a moderate positive correlation with academic self-efficacy (Robbins et al., 2004). However, no published studies have tested the association between SES and academic self-concept using Reynolds’ Academic Self-Concept Scale.

Some indirect evidence comes from a study by Michie, Glachan and Bray (2001), which compared scores on the Academic Self-concept Scale for direct-entry and re-entry students at a British university. Direct-entry students were those who entered university straight from secondary school, whereas re-entry students entered at age 22 or older.<sup>5</sup>

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<sup>5</sup> The authors elected not to use the more common but value-laden terms “mature student” or “adult learner.”

Michie and colleagues did not measure participants' SES, but students who enter university at a later age tend to be from lower SES backgrounds (e.g., Nunez & Carroll, 1998).

Contrary to their predictions, Michie and colleagues (2001) found that direct-entry and re-entry students did not differ on overall academic self-concept. In fact, re-entry students scored higher on one aspect (perceived peer evaluations of their academic ability). This may have been because re-entry students were in the majority at this university, reducing any negative effects associated with being in a minority or feeling "out of step" (Michie et al.) with other students. It is also possible that re-entry students did not have lower SES than direct-entry students at this particular university.

Nevertheless, the factors that accounted for most of the variance in academic self-concept in this study – self-esteem, academic stress, having intellectual (as opposed to social or vocational) motives for attending university, and approaches to studying in prior schooling – are all associated with SES. Lower-SES people tend to have slightly lower self-esteem (Twenge & Campbell, 2002), greater stress (Adler et al., 2000), more vocational than intellectual motives for attending university (Paulsen & St. John, 2002), and perhaps less effective approaches to studying (Robbins et al., 2004). Michie and colleagues' findings about the predictors of academic self-concept hint that scores on the Academic Self-concept Scale (Reynolds, 1980, 1988) may be negatively associated with socioeconomic status, but their finding that direct- and re-entry students did not differ on academic self-concept appear to contradict this inference.

*Chapter Summary*

Overall, the theory and research I have presented provide solid evidence that self-conceptions and academic achievement are associated. For postsecondary students, self-conceptions specific to the academic domain seem to be the best predictors of academic achievement, especially grades. The relation between academic self-conceptions and achievement appears to be reciprocal, with the effect of academic self-concept on subsequent achievement somewhat stronger than the effect of achievement on subsequent academic self-concept.

Unfortunately, the literature contains no direct evidence regarding the role of socioeconomic status in moderating the association between self-conceptions and achievement. In fact, no published studies examine the association between socioeconomic status and scores on the Academic Self-concept Scale. The literature indirectly appears to suggest that low-SES students may have lower academic self-concept, but it is possible that SES differences in academic self-conceptions are unrelated to SES differences in academic achievement.

So far, I have proposed two factors that may mediate the association between socioeconomic status and university achievement – academic self-concept and the collective identity of social class. In different ways, both of these emphasize the role self-perceptions in shaping individuals' views of what seems possible and desirable in terms of academic achievement. There is another potential explanation for the lower academic achievement of low-SES students – they may be less engaged in university than their peers. Similar to academic self-concept, engagement is believed to influence achievement partly by triggering psychological processes. However, engagement research shifts the

focus away from self-worth constructs and places it squarely on behaviours thought to predict academic success.

## CHAPTER 4

## STUDENT ENGAGEMENT

Constructs related to student engagement have been central in research on postsecondary attrition and retention. As measured by the National Survey on Student Engagement (NSSE; Kuh, 2002), the construct refers to the extent to which students have access to, and are engaged in, a set of “good practices” in undergraduate education (Chickering & Gamson, 1999). These practices are based on: 1) contact with faculty members, 2) cooperation with other students, 3) active learning, 4) prompt feedback, 5) more time on task, 6) exposure to high expectations, and 7) exposure to diverse talents and ways of learning. The level of engagement in these practices is conceptualized both as a measure of institutional quality and as a predictor of the benefits that students receive from their education and the likelihood that they will earn higher grades, persist in their studies and graduate (Cruce, Wolniak, Seifert, & Pascarella, 2006; Kuh, Kinzie, Schuh, Whitt, & Associates, 2005). In large representative studies, the various components of student engagement are positively associated with self-reported university GPA, with average correlations ranging from .10 to .17 depending on the specific aspect of engagement (Kuh, 2002).

Three models have been especially influential in educational research on student engagement: Astin’s (1993) student involvement model, Tinto’s (1993) student integration model, and Bean and Metzner’s (1985) student attrition model. Social-psychological research on the role of stigma (Van Laar & Derks, 2003) and stereotypes (Croizet & Claire, 1998) in academic disengagement rounds out these perspectives. Despite some important differences, each of these perspectives suggests the possibility

that engagement may explain SES- or class-related differences in academic attainment. The focus of these models is student retention and degree attainment rather than grades. Nevertheless, the fact that grades are the strongest single predictor of university attrition (Pascarella & Terenzini, 2005) makes these models pertinent to research on academic performance.

Astin (1993) proposed that students who expend more psychological and physical energy—those who are more involved—achieve higher grades and graduation rates. Even though Astin's approach is generally classified as a model of institutional impact on student success, his later work emphasizes the student's role in exploiting opportunities for involvement. Astin operationalized involvement in behavioural terms, measuring student participation in social, extracurricular, and academic aspects of university life. Research on student attrition generally shows that involvement with faculty and peers has positive effects on academic outcomes, whereas lack of involvement in campus activities has negative effects (Pascarella & Terenzini, 2005).

Tinto's (1975, 1993) student integration model assumes that greater congruence between the student and the institution increases student persistence. Tinto proposes that students' family background, prior schooling, and individual attributes influence their commitment to their goals and their institution. Students' commitment influences their interactions with peers and faculty, their intellectual development, and their level of success in the academic system. Of importance for the current study, peer and faculty interactions are thought to influence students' intellectual development and their grades. The combined result of students' grades, development, and interactions in the academic system influence their academic and social integration, which reinforce (or fail to

reinforce) students' commitment and ultimately influence the decision to persist or withdraw from their studies.

Tinto's model has been extremely influential in the student persistence literature and was notable for drawing attention to the importance of what happens in the university setting when it comes to predicting student success and persistence (Grayson & Grayson, 2003). However, the model has been criticized on the grounds that it is mainly relevant to traditional-aged, full-time students living in university residences.

In the 1980s, investigators began to test Tinto's model in universities where most students live off-campus, as is the case on most Canadian campuses. A number of studies in these settings indicated that academic integration has a significantly positive impact on retention, but the findings for social integration were mixed (e.g., see Cabrera, Nora, & Castaneda, 1993). A number of studies found that student characteristics, including family background and prior schooling, may be more important than their university experiences in these types of institutions. Nevertheless, the student integration model did account for 10-20% of the variance in student persistence in a wide range of institutional types (see Grayson & Grayson, 2003).

Bean and Metzner's (1985) student attrition model is somewhat similar to Tinto's student integration model. Academic factors, social-psychological factors, and environmental factors influence students' grades, institutional fit and institutional commitment, which in turn influence their persistence. The student attrition model was important because it added a consideration of environmental factors relevant to the achievement of "non-traditional" students, such as finances and the influence of peers from outside the institution. In addition, two of the social-psychological factors they

included seem more pertinent to non-traditional students as well – the perceived utility of higher education and student alienation. Non-traditional students are not necessarily low-SES students, but these groups share some attributes (living off campus, attending part time, and delayed entry to university) that make them less likely than traditional students to become highly engaged.

The external and social-psychological factors incorporated by Bean and Metzner seem to be important sources of student attrition. In research that attempted to synthesize and integrate Bean and Metzner's model with Tinto's, variance in student attrition was better accounted for by the former (44%) than the latter (38%) (Cabrera, Castaneda, Nora, & Hengstler, 1992). In a subsequent study (Cabrera et al., 1993), Bean and Metzner's model alone accounted for 44% of the variance in attrition, and the combined model improved this to only 45%. Cabrera and colleagues attribute the greater success of Bean and Metzner's model to their emphasis on external factors.

### *Stigma, Stereotypes and Disengagement*

Social-psychological research on the role of stigma and stereotypes in academic engagement brings an additional perspective to these engagement models. As outlined in the academic self-concept chapter, people who have poor academic performance may devalue the academic domain and detach their self-worth from their academic achievement. More broadly, people who are targets of negative stereotypes about their group's academic abilities are thought to cope with this bias by psychologically disengaging or disidentifying from the academic domain (Major, Spencer, Schmader,

Wolfe, & Crocker, 1998). This is likely to lead to behavioural disengagement and diminished performance.

Academic disidentification and disengagement can occur at the level of the individual, but also at the group level, as shown in research on academic achievement in minority students and mathematics and science achievement in female students. Group-level disengagement is particularly troubling, as it has the potential to reproduce the low performance and low status of the social group in question (Van Laar & Derks, 2003).

Perceived bias against their group may lead some people to pre-emptively disengage from the academic domain even if they have not previously received negative feedback about their personal academic performance. One example of this involves a particular aspect of the stereotype-type threat phenomenon. Croizet and Claire (1998), found that low-SES students attempted to answer fewer questions when they believed a test was diagnostic of their intellectual abilities than when tests were non-diagnostic. Another example of pre-emptive disengagement was found in research by Major and colleagues (1998). They found that European-American students' self-esteem was influenced by receiving positive or negative feedback on bogus intelligence tests, but African American students' self-esteem remained stable regardless of the feedback they received. They concluded that the African American students either disengaged their self-esteem from intellectual performance or that they discounted feedback about their performance as biased and illegitimate. Overall, the results of these studies point to a potentially worrisome detachment from educational pursuits for stigmatized groups.

*Socioeconomic Status and Student Engagement*

The student engagement literature does not focus on explaining SES or social class differences in student engagement and achievement. However, models of student involvement, attrition, and integration all assume that student background characteristics influence engagement in university. For example, Astin (1993) claimed that low-SES students, who are more likely than others to live, work, and socialize off campus, are likely to score lower on involvement measures. Bean and Metzner (1985) developed their model specifically to account for factors that might influence attrition among non-traditional students. Even Tinto (1975), whose model may have been justly criticized as more applicable to traditional students, included family background as a predictor in his model.

As with academic self-concept, there is a lack of direct evidence linking SES, engagement and academic outcomes. Unfortunately, engagement research tends to control for the effects of SES rather than investigating it. In a typical example, researchers studied the longitudinal effects of several measures of good educational practices in a nationally representative sample of 3,895 students at 18 universities in the U.S. (Cruce et al., 2006). They controlled for the effects of parental income and education as well as numerous student demographic characteristics. They also controlled for the effects of pre-university measures of students' academic ability, achievement and their scores on the study's dependent variables. The results indicated that the good educational practices had small positive effects on students' cognitive development, orientations to learning and educational aspirations. The authors report differences based on participants' race and gender but not based on the socioeconomic variables.

There is evidence that SES and class differences in the psychological and behavioural engagement of high school students influences their success and their decisions about further study (McDonough, 1997; Walpole, 2003). Research on university students is sparser and the findings are inconclusive, but some studies have found that low-SES and first-generation students tend to score lower than others on various measures of integration and involvement. For example, a national longitudinal study of U.S. students (Ethington & Smart, 1986) used structural equation modeling to determine the effects of student background, involvement with faculty and peers, and other factors on continuation to graduate school. They found that students' socioeconomic status had a significant effect on involvement in the undergraduate years, which in turn had a significant effect on continuation to graduate school. This implies, but does not directly show, that that higher-SES students' greater involvement improved their grades, making it more likely that they would attend graduate school.

Another longitudinal study used a nationally representative sample drawn from 18 universities in the U.S. to test differences between first-generation students and students whose parents had university degrees. The results showed that campus-based extracurricular and social activities had positive academic benefits, but that first-generation students were significantly less likely to be involved in these than other students, even when parental income, prior achievement, cognitive ability, and a host of other factors were statistically controlled (Pascarella et al., 2004). In contrast, a study conducted at York University (Grayson, 1997) found that although first-generation students scored lower on two types of involvement that were associated with higher GPA (amount of time spent on campus and participation in cultural activities), they were also

less involved in activities that were detrimental to GPA (social activities and club involvement), with the result that the effect of overall involvement on GPA did not differ for first-generation versus other students.

Despite these inconsistent findings, it seems reasonable to expect that the psychological effects of class identification could influence academic outcomes via student engagement. In recent research, Jetten and colleagues (2008) found that low-SES students perceived more incompatibility between their family background and a university-student identity, which could have implications for the degree of psychological or behavioural engagement among these students. Poor and working-class university students are attempting upward mobility, essentially rejecting their current socioeconomic position in favour of something “better.” For those who identify more strongly with their class background, this may lead to identity concerns if they believe that they must reject familiar values, goals, and behaviours and adopt new ones in order to successfully achieve upward mobility. Some may reject aspects of the university experience in order to maintain social ties, psychological attachment, and a stable sense of collective identity. These tensions may combine with material barriers to lead lower-SES students who identify strongly as working class to become relatively less engaged in the university experience.

This is an important issue that deserves further study, particularly in light of findings that first-generation students may derive significantly greater academic benefits from involvement than other students (Hahs-Vaughn, 2004; Pascarella et al., 2004). For example, social integration had a significantly greater influence on longitudinal gains in critical thinking, preference for higher-order cognitive tasks, sense of responsibility for

one's educational outcomes, and degree plans for first-generation than for other students (Pascarella et al). Another study of a national U.S. sample found that academic engagement, which consisted largely of student-faculty interaction, was associated with student persistence for first-generation students but not for other students (Lohfink & Paulsen, 2005). Thus, there is some indication that greater engagement in the university experience may play a compensatory role in the academic outcomes of first-generation students, whose parents and friends may provide less direct support for attending university and less of the social and cultural capital that comes with a university education (Pascarella et al.).

### *Chapter Summary*

Overall, the evidence presented in this chapter indicates that student engagement is associated with a number of positive academic outcomes, including gains in cognitive abilities and preferences, persistence and degree attainment, continuation to graduate-level studies, and grades. There is also evidence that low-SES and first-generation students tend to be less engaged, but that engagement among these students may have more positive benefits than for other students.

Interestingly, there is no direct evidence that lower engagement levels among low-SES students are associated with lower grades. In fact, one study found that first-generation students were less engaged in both beneficial and detrimental activities, with the net result that overall engagement was unrelated to their grades. On the other hand, including factors associated with “non-traditional” student achievement in models of student engagement significantly improves our ability to predict attrition, which suggests

links between engagement and students' socioeconomic background. However, at this time, the research linking socioeconomic status, student engagement, and grades remains inconclusive.

Research linking psychological class identity with engagement and grades is virtually non-existent. However, studies of intellectually stigmatized and stereotyped groups implies that some low-SES or working-class students may disengage by avoiding effort in intellectual domains or by psychologically disengaging from educational pursuits. In addition, research on class and SES differences in educational choices and experiences suggests that students who identify with their working-class background may experience higher education as alienating and may therefore be less fully engaged in educational pursuits.

## CHAPTER 5

## RATIONALE FOR THE DISSERTATION RESEARCH

In the preceding chapters, I summarized the direct influences of SES on academic achievement, and argued that SES may also influence educational outcomes indirectly through its effects on the collective identity of social class. I then presented the equally plausible arguments that SES may influence academic achievement by shaping students' academic self-conceptions or their level of engagement. In this chapter, I briefly summarize these arguments, and outline the rationale for a model in which class identity, academic self-concept, and student engagement all mediate the influence of socioeconomic status on university achievement.

Socioeconomic status can influence academic achievement and persistence in a number of ways. Its direct material influences are well-known. For example, the lower quality of their schooling and other material disadvantages (e.g., see McLoyd, 1998) leaves many low-SES youth under-prepared for university, and most neither qualify nor apply for admission. Those who overcome these barriers and enrol in university continue to face material disadvantage. For example, compared to more privileged students, university students from low-income families have fewer economic resources, more financial responsibilities, and tend to work longer hours (Pascarella et al., 2004).

In addition to the direct material effects of family income, a student's socioeconomic status is important in other ways. Socioeconomic differences in cultural and social capital mean that higher-SES families are more likely to have knowledge, social networks, and linguistic abilities needed to help their children to succeed in university. SES or class differences in educational and occupational values may also be

involved. Some poor and working-class families may have lower educational aspirations for their children, or feel ambivalent about the ways education changes their children.

These differences can be seen as a cultural mismatch between working-class values and the middle- or upper-class values of many universities. Therefore, I propose that SES can also influence university performance indirectly, through its effect on class identity. For most middle-class families, attending university is normative (London, 1989; Reay et al., 2005) so a middle-class identity is likely to be compatible with university attendance and higher academic achievement. In contrast, for many working-class families, university attendance and high academic achievement may be relatively incompatible with class-based norms (e.g., Bowl, 2003). In this way, students' class identity may directly influence their ability to adjust — and willingness to assimilate — to the culture and expectations of higher education.

Class identity may affect university grades directly, but its effect could also be mediated by academic self-concept and/or student engagement. To the extent that class identities involve students' perceptions and feelings about their academic abilities, class identities may influence students' academic self-concept. For example, negative stereotypes about the intellectual abilities of working-class people may contribute to academic self-doubt. For middle-class students, the relative familiarity of higher education's cultural environment may be associated with more positive academic self-conceptions. Research indicates a positive association between socioeconomic status and some measures of academic self-conceptions, but the mechanisms are not known. The class-identity construct provides an opportunity to examine the relation between SES, academic self-concept and university achievement.

Any effect of class identity on student achievement could also be mediated by student engagement. Class identity may influence individuals' psychological engagement with academic pursuits and success, as well as their willingness and ability to become more actively involved in the university experience. The evidence is quite limited, but low-SES and first-generation students do appear to be less academically and socially engaged than their peers. However, there is no consistent evidence regarding SES differences in the relation between engagement and academic outcomes. Again, the class-identity construct provides a plausible psychological mechanism that may be involved in the relation of SES, engagement, and university achievement.

*Linking SES, Academic Self-Concept, Student Engagement, and Academic Outcomes*

No research to date has investigated the relations among all of the key variables of interest in this dissertation. However, in literature reviewed by Pascarella and Terenzini (1991), academic and social integration were positively associated with academic self-conceptions. In addition, their more recent literature review reports "ample evidence" that the institutional environment and culture, in particular interaction with peers and faculty, are associated with a more positive self-concept (2005, p. 241). Moreover, certain aspects of student engagement and of academic self-conceptions appear to be more strongly related for first-generation students. Specifically, academic effort and involvement and extracurricular involvement appear to be associated with more positive success and failure attributions (e.g., the belief that effort leads to success). These findings suggest that there may be a positive association between student engagement and academic self-

concept in predicting university achievement, and that SES may moderate this association.

Based on the limited evidence available, I propose that students' class identity affects their engagement and their academic self-concept. I also propose that class identity directly influences academic achievement, after accounting for differences in SES, engagement, and academic self-concept. It is equally possible that class identity has no effect on achievement other than that explained by engagement and/or academic self-concept. Either way, collective identity of social class has potential as a new predictor of academic outcomes. The first step in clarifying these relations is to devise an adequate means for assessing the degree of psychological identification with one's social class. The development of the collective identity of social class scale is where we turn next.

## CHAPTER 6

## STUDY 1

## CONSTRUCTION OF THE COLLECTIVE IDENTITY OF SOCIAL CLASS SCALE

*Purpose*

The main purpose of Study 1 was to establish the content and underlying structure of the collective identity of social class construct. As conceptualized in Chapter 2, psychological class identity is multidimensional, encompassing a large number of potential identity-related constructs. In addition, I speculated about the relation between class identity and meritocratic ideology. Each of these constructs had to be operationalized and/or adapted for the purpose of creating a measure of collective identity specific to social class. This process resulted in a lengthy questionnaire, therefore a second goal for Study 1 was to reduce the scale to a more manageable number of items in preparation for Study 2. Finally, I used Study 1 to refine the procedures and instructions associated with the CISC scale and to gather evidence for the scale's internal consistency and validity.

*Method and Procedures**Participants*

I recruited participants primarily from first-year classes at a mid-sized Canadian university, using the SONA online participant-recruitment system to recruit students taking psychology, as well as posters and class visits to recruit other students not enrolled

in any of the applicable psychology courses in which students receive grade-raising credit for their participation in research. All participants received \$10 for their participation, excluding those psychology students who preferred to receive a grade-raising credit instead. Appendix A contains a sample of the recruitment notices and posters I used.

A total of 309 students participated in Study 1. As the initial CISC scale consisted of 36 items, the subjects-to-variables ratio was more than 8 participants per item, within the recommended range of 5 to 10 needed to accurately reproduce the population factor loadings (Fabrigar, Wegener, MacCallum, & Strahan, 1999; Russell, 2002; Tabachnik & Fidell, 2001).

The sample consisted of 104 men (33.7%) and 205 women (66.3%), with an average age of 20.3 years. Participants majored in all academic disciplines, but the most common were psychology (15.9%,  $n = 49$ ), business (13.6%,  $n = 42$ ), sciences (biology, chemistry and physics; 10.7%,  $n = 33$ ), criminology (8.4%,  $n = 26$ ) and social work (6.5%,  $n = 20$ ). Participants who had not yet declared a major made up another 5.8% ( $n = 18$ ) of the sample. A large majority were Canadian citizens (79.2%,  $n = 244$ ), with a majority identifying their ethnicity as White (54.5%,  $n = 168$ ), and the other participants identifying as Chinese (13%,  $n = 40$ ), Black (7.8%,  $n = 24$ ), South Asian (6.8%,  $n = 21$ ), Arab/West Asian (4.5%,  $n = 14$ ) or “other” (4.5%,  $n = 14$ ).

Participants' SES was generally representative of the university's student population. A random sample of first-year and fourth-year students who completed the National Survey of Student Engagement in 2005 indicated that approximately 29% of parents had completed high school or less, approximately 29% had some postsecondary education but no university degree, and approximately 42% had earned at least an

undergraduate degree (Office of Institutional Research, 2006). In the current study, 28% of mothers and 24% of fathers had completed high school or less, 33% of mothers and 28% of fathers had some postsecondary education but no university degree and 29% of mothers and 49% of fathers had earned at least an undergraduate degree. Responses to the Family Background Index indicated that one-quarter of participants (25.6%,  $n = 78$ ) were working class and three-quarters were middle class (74.8%,  $n = 231$ ).

### *Measures*

#### *Student Information Survey*

In Chapter 1, I described some of the difficulties associated with self-reported social class. In particular, young people from “lower” social classes often overestimate their own social class relative to the objective indicators of their (or their family’s) education, income, and occupation. For this reason, I created a measure that ascribed one of two broad class categories to participants based on their parents’ education and occupation, rather than asking them to choose their own social class label. This had the advantage of generating both an objective SES score and a reasonably accurate social class designation for each participant, allowing participants’ subjective class perceptions to come into play mainly via their collective identity of social class scores.

The first part of the Student Information Survey (Appendix D) elicited background information such as participants’ sex, age, major program of study, ethnic background and hours of employment. The second part measured parental occupation and education and provided a simple rubric that participants used to calculate their “Family Background Index” (SES score) and to establish whether they were considered working class or middle class.

Because classifying occupations according to their socioeconomic or social class status is a very complex undertaking (Blishen et al., 1987; Cirino et al., 2002; Ensminger et al., 2000), and because young people can reliably report parental occupation in broad categories (Looker, 1989; West, Sweetling, & Speed, 2001), but may lack information required by more elaborate schemes, I elected to use a simpler scheme to establish SES. I drew on work by Barratt (2006), who developed a self-scored SES measure for use with college and university students. His scale is an adapted version of the Hollingshead Index of Social Position (Hollingshead, 1957, 1975, cited in Barratt, 2006), which calculates an SES score based on educational attainment and occupational prestige. The Hollingshead Index is the most widely used measure of SES in psychological research, but is considered outdated (Liu, Soleck, et al., 2004). Barratt updated Hollingshead's occupational categories using the occupational prestige ratings in the 1989 General Social Survey (Davis, Smith, Hodge, Nakao & Treas, 1991, cited in Barratt, 2006). Following Hollingshead, Barratt divided the General Social Survey data into 9 occupational categories, with scores ranging from 5 (e.g., janitor, food preparation worker) to 45 (e.g., physician, senior manager). Using relatively few occupational categories may result in more accurate reports of parental occupation (Lien, Friestad, & Klepp, 2001), making this approach particularly suitable for the self-scored measure used in the current study.

As anticipated, some participants (approximately 10%) were uncertain about how to categorize their parents' occupations. The Student Information Survey directed them to ask me for assistance, and I assisted them by asking a series of questions: 1) What kind of education do most people in your parent's occupation have (short work demonstration or on-the-job training, high school or occupation-specific training, college diploma or

apprenticeship training, or university degree)?; 2) Does your parent usually take orders or give orders at work?; 3) Would you describe your parent's job as managerial?; and 4) Would you describe your parent's job as lower, middle, upper, or top management?

Using participants' answers and their description of the specific occupation, I was able to identify the correct category by referring to the Canadian National Occupational Classification (Human Resources and Skills Development Canada, 2001). I applied the same classification scheme to participants who described their parents as self-employed.

I modified Barratt's (2006) education subscale because it does not distinguish between college and university. Compared to the U.S., the Canadian postsecondary sector distinguishes relatively clearly between the two, with university considered more prestigious. To properly capture the range of parental education among participants, the Student Information Survey combines the parental education scale of Barratt's measure with the one used at the university as part of the National Survey of Student Engagement [NSSE]. The NSSE and Barratt response options and scoring are compared with that of the Student Information Survey in Table 1. Modifying Barratt's parental education scale in this way increases the range of the scale and adds slightly more weight to parental education relative to parental occupation. This change actually reproduces Hollingshead's original 5:3 ratio (Barratt, 2006) of occupation (up to 45 points) to education (up to 27 points).

Table 1. Comparison of Parental Education Scoring for NSSE, Barratt Simplified Measure of Social Status, and Student Information Survey

NSSE		Barratt		Student Information Survey	
Response Option	Response Option	Score	Response Option	Response Option	Score
--	Less than 7 <sup>th</sup> grade	3	Less than 7 <sup>th</sup> grade	Less than 7 <sup>th</sup> grade	3
--	Junior high / middle school (9 <sup>th</sup> grade)	6	8 <sup>th</sup> or 9 <sup>th</sup> grade	8 <sup>th</sup> or 9 <sup>th</sup> grade	6
Did not finish high school	Partial high school (10 <sup>th</sup> or 11 <sup>th</sup> grade)	9	Did not finish high school	Did not finish high school	9
Graduated from high school	High school graduate	12	Graduated from high school	Graduated from high school	12
Some or completed college or CEGEP	Partial college (at least one year)	15	Some or completed college or CEGEP	Some or completed college or CEGEP	15
Attended university without earning degree	--		Attended university without earning degree	Attended university without earning degree	18
Completed a bachelor's degree (B.A., B.Sc., etc.)	College education	18	Completed a bachelor's degree (B.A., B.Sc., etc.)	Completed a bachelor's degree (B.A., B.Sc., etc.)	21
Completed a master's degree (M.A., M.Sc., etc.)	Graduate degree	21	Completed a master's degree (M.A., M.Sc., etc.)	Completed a master's degree (M.A., M.Sc., etc.)	24
Completed a doctoral degree (Ph.D., J.D., M.D., etc.)	--		Completed a doctoral degree (Ph.D., J.D., M.D., etc.)	Completed a doctoral degree (Ph.D., J.D., M.D., etc.)	27

*Note.* In the NSSE, parental education is used only for categorization and therefore does not receive an interval score.

I did not measure family income, the third traditional component of SES. Self-report SES measures do not typically include questions about income, in part because occupation and education are good proxies for income, and in part because it is extremely difficult to obtain an accurate index of a family's overall financial situation (Gottfried,

1985; Murdock, 2000). Income is the least stable of the SES indicators, particularly for low-income people (McLoyd, 1998). In addition, a family income measure cannot accurately capture variations in the cost of living (e.g., regional differences, family size) or unearned financial resources (e.g., inheritance, investment income, government benefits). Moreover, young people often are not aware of their parents' income, and many parents are themselves sensitive about reporting their earnings and assets. As an alternative, researchers sometimes use respondents' postal code to assign them the median neighbourhood income, but this approach may assume too much income homogeneity. Another approach is to ask about eligibility for school-lunch subsidies or other forms of social assistance, but eligibility standards vary widely, and many eligible families do not apply because of the associated stigma (Murdock, 2000). Therefore, although excluding income from the present study does introduce some limitations, these appear to be unavoidable.

The Student Information Survey asked participants to circle the score indicating each parent's (or guardian's) education and occupation. Each score was then divided by two and summed to determine the participant's "Family Background Index." Participants who grew up with only one parent circled just one score for education and occupation. The total SES score ranges from 8 to 73 points. Participants with scores between 8 and 40 were considered working class and participants with scores between 41 and 73 were considered middle class. I checked the calculation of each participant's Family Background Index and assured they understood the classification before giving them the class-appropriate version of the CISC scale. The complete Student Information Survey is presented in Appendix D.

*Collective Identity of Social Class*

As there are no existing multidimensional measures of social class identity, as explained in Chapter 2, I reviewed the relevant theoretical and empirical literatures and identified ten relevant constructs of collective identity to include as part of the scale. These ten constructs assess three broad dimensions considered important in collective identity: self-categorization, evaluation, and group connection. In addition, I identified two other constructs relevant to a fourth dimension of collective identity, content and meaning. These are self-attributed characteristics, which I used as a test of implicit importance, and ideology, which I used as a test of discriminant validity.

The scale incorporates multiple items to measure each construct. Table 2 presents a complete list of the CISC items and the constructs they represent. Appendix E contains the participant version of the CISC scale. (Note that there were two versions of the CISC scale, with either “poor or working-class” or “middle- or upper-class” wording as appropriate for the participant).<sup>6</sup>

*Self-categorization.* Self-categorization consists of five constructs: 1) overt self-categorization, 2) salience, 3) explicit importance, 4) implicit importance and 5) similarity to a group prototype. Overt self-categorization is the most basic type of collective identity measure; it simply asks people to place themselves in a social category. As noted earlier, before completing the CISC scale, participants completed the Student Information Survey, which converts their SES (parental education and

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<sup>6</sup> To keep the following description clear and easy to read, I use “working class” whenever a specific social class is mentioned in a scale item. The other version of the CISC scale simply substitutes the words “middle- or upper-class” in each item.

occupation) into a social class label. To assess overt self-categorization, the CISC scale asks participants if they agree that this is their social class and how certain they are about it (e.g., “According to the Student Information Survey you completed, social scientists would say that you are from a poor or working-class background. Do you agree that this is the social class you belong to?”). In addition, certainty was measured using three items adapted from Mohr and Fassinger’s (2000) Lesbian/Gay Identity Scale (e.g., “I’m not totally sure that I’m a poor or working-class person”).

I operationalized the salience of class identity in three ways. First, the CISC scale asks about the cognitive accessibility of the participant’s social class. According to Cameron (2004) cognitive accessibility (how often it comes to mind) is a key identity component with natural groups. I used Cameron’s cognitive accessibility items in adapted form (e.g., “The fact that I am a poor or working-class person rarely enters my mind.”).

Second, the CISC includes two subjective measures of the participants’ relative SES to determine salience. The first of these determines perceived minority status by asking participants to estimate the percentage of students they encounter in academic settings (classes, labs, tutorials, and seminars) who are in each social class. The response options range from 1 = *100% poor or working class* (low salience) to 7 = *100% middle or upper class* (high salience). For the middle- or upper-class CISC scale, response options are reversed so that 1 remains the low-salience response and 7 remains the high-salience response.

Table 2. Collective Identity of Social Class Operationalization, Items, and Scales.

Dimension: Self-categorization		
Construct	Operationalization	Items and Scales
Overt self-categorization	Agreement of subjective and objective class placement	According to the Student Information Survey you completed, social scientists would say that you are from a poor or working-class background. Do you agree that this is the social class you belong to?
	Subjective certainty of self-categorisation	On the Student Information Survey, you provided information about your family background that suggests you are a poor or working-class person. How certain do you feel that this label accurately categorised you? <i>1 = not at all certain 7 = completely certain</i> I'm not totally sure that I'm a poor or working-class person.* I can't decide whether I'm middle/upper class or poor/working class.* I get very confused when I try to figure out my own social class.*
Salience	Cognitive accessibility	In my everyday life, I often think about the fact that I am a poor or working-class class person. The fact that I am a poor or working-class person rarely enters my mind.*
	Subjective salience - perceived proportion of same-class students	Think about the students in your classes, tutorials, seminars, and labs. What percentage of these students do you think are poor or working class, and what percentage do you think are middle or upper-class? Circle the answer that comes closest to matching your perceptions: <i>1 = almost 100% poor or working class 7 = almost 100% middle or upper class</i>

	Subjective salience - perceived distance between own and others' SES	Ladder of Society Think of this ladder as representing where people stand in our society. . . Place an <b>X</b> on the rung that best represents where you think you stand on the ladder. Place an <b>O</b> on the rung the best represents where you think most of the students in your classes, labs, tutorial, and seminars stand. Scale = 1 to 7 (Subtract points for rung labelled X from rung labelled O.)																					
Explicit importance	Directly ask about importance of class to overall sense of self	The social class I belong to is unimportant to my sense of what kind of a person I am.* Overall, belonging to the poor or working class is an important reflection of who I am. In general, belonging to the poor or working class is an important part of my self-image.																					
Implicit importance	Endorsement of attitudes, norms, and values associated with own class	How important is each of the following to your overall sense of who you are as a person? Being a(n) _____ person. <i>1 = extremely unimportant 7 = extremely important</i>  <table border="0"> <tr> <td><u>Working class</u></td> <td><u>Middle class</u></td> <td><u>Distractors</u></td> </tr> <tr> <td>down-to-earth</td> <td>sophisticated</td> <td>athletic</td> </tr> <tr> <td>family-oriented</td> <td>career-oriented</td> <td>tidy</td> </tr> <tr> <td>loyal</td> <td>ambitious</td> <td>accurate</td> </tr> <tr> <td>humble</td> <td>confident</td> <td>funny</td> </tr> <tr> <td>practical</td> <td>open-minded</td> <td>active</td> </tr> <tr> <td>authentic</td> <td>influential</td> <td>creative</td> </tr> </table>	<u>Working class</u>	<u>Middle class</u>	<u>Distractors</u>	down-to-earth	sophisticated	athletic	family-oriented	career-oriented	tidy	loyal	ambitious	accurate	humble	confident	funny	practical	open-minded	active	authentic	influential	creative
<u>Working class</u>	<u>Middle class</u>	<u>Distractors</u>																					
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loyal	ambitious	accurate																					
humble	confident	funny																					
practical	open-minded	active																					
authentic	influential	creative																					

Similarity to group prototype	Directly ask about similarity to typical group member	<p>I am a typical member of the poor or the working-class.</p> <p>People who are poor or working class are very similar to me in their ideas and interests and feelings about things.</p> <p>Indicate the similarity or difference between yourself and other poor or working-class people. *</p> <p>1 = <i>we are as similar as possible</i> 7 = <i>we are as different as possible</i></p>
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## Dimension: Evaluation

Construct	Operationalization	Items and Scales
Private regard	Personal assessment of the group	<p>Poor and working-class people are just as good as anyone else.</p> <p>Poor and working-class people are not as effective as people in other social classes.</p> <p>In general, I respect poor and working-class people as much as middle- and upper-class people.</p> <p>Poor and working-class people contribute as much to society as people in other social classes.</p>
Public regard	Perceived assessment of the group by others	<p>Most people consider my social class, on the average, to be more ineffective than other social classes.</p> <p>In general, other people think that my social class is unworthy.</p> <p>In general, other people respect the social class that I am a member of.</p>

## Dimension: Group Connection

Construct	Operationalization	Items and Scales
Attachment	Positive and negative emotions about belonging to own class	<p>Just thinking about the fact that I am a poor or working-class person sometimes gives me bad feelings.</p> <p>In general, I feel close to the poor or the working class.</p> <p>In general, I have warm feelings toward poor and working-class people.</p>

Attachment (cont'd)		Generally, I feel good when I think about belonging to the poor or working class.
Mutual fate	Perception that opportunities and outcomes are tied to those of the ingroup	I believe that the opportunities I have and my outcomes in life are tied to the social class I belong to. What happens to poor or working-class people generally will have something to do with what happens in my life. My fate and my future are bound up with those of poor or working-class people everywhere. Regarding my social class, it is accurate to say "united we stand, divided we fall."
Social embeddedness	Number of relationships tied to class membership	Most of the people in my life are poor or working class.
	Importance of relationships tied to class memberships	Most of the important relationships in my life are with poor or working-class people.
	Effect on relationships if class changed	If my social class changed, I probably would not remain as close with certain key people in my life.
	Interconnection between the self and others in the same social class	When I think about poor or working-class people, I usually think "we" rather than "they." If someone said something about poor or working-class people, I would feel almost as if they had said it about me.

*Notes.* Unless otherwise noted, scale anchors are 1 = *strongly disagree* and 7 = *strongly agree*.

\* = Reverse-scored item

The second subjective measure of relative SES operationalized salience as the perceived socioeconomic distance between participants and others they encounter in academic settings. I used a modified version of the ladder method, a single-item measure of subjective SES used in psychological research (e.g., see Adler et al., 2000; Bullock & Limbert, 2003; Liu, Soleck, et al., 2004). The measure has good face validity, and appears to be a better predictor of a range of physical and psychological health outcomes than objective SES, even though it has low to moderate correlations with objective SES measures (Adler et al., 2000). Participants receive a drawing of a ladder, described as a representation of “where people stand in society,” with the “best-off people, those with the most education, money and best jobs” at the top and the “worst-off people, those with the least education, money, and worst jobs (or no job)” at the bottom (Adler et al., 2000, p. 589). Participants place an X on the rung that best represents where they think they stand on the ladder. For the present study, I modified the scale in two ways. First, the instructions asked participants to place an “O” on the rung that best represents where they think most of the students in their classes, labs, tutorials, and seminars stand as well as an “X” to represent where they stand. Second, because the participants are young students who have not yet established their own social standing, I describe the “best-off people” as “those whose *families* have the most education” and so on. The scale is scored from 1 (top of ladder) to 7 (bottom of ladder). Subjective salience is the difference between the placement of self and others on the ladder. The full scale appears in Appendix F as the Ladder of Society.

The third and fourth constructs in the self-categorization dimension are explicit and implicit importance. Explicit importance refers to the subjective appraisal of the

importance of the collective identity to one's overall sense of self (Ashmore et al., 2004).

I adapted items from Luhtanen and Crocker's (1992) "identity" subscale to measure explicit importance. For example, "The social class I belong to is unimportant to my sense of what kind of a person I am."

Implicit importance is the often subconscious placement of a collective identity in one's hierarchical self-system (Ashmore et al., 2004). Good measures of implicit identity importance have yet to be developed, yet this construct may be useful for tapping identification with stigmatized groups such as "lower" social classes. I argued in Chapter 2 that implicit importance may be assessed by studying participants' endorsement of attitudes, goals, values, and characteristics that are typical of their own social class. I obtained descriptions of each social class's typical traits from research on attitudes toward the poor, inter- and intra-class attitudes, and qualitative accounts of poor and working-class people in higher education (i.e., Bullock, 1999a; Bullock et al., 2001; C. Cozzarelli, A. Wilkinson, & M. Tagler, 2001a; Dews & Law, 1995; Gorman, 2000; hooks, 2000; Hoyt and Dietz-Uhler, 1998, cited in Hoyt, 1999; Jackman & Jackman, 1983; Kirby, 1996; Kluegel & Smith, 1986; London, 1989; Lott & Saxon, 2002; Tokarczyk & Fay, 1993). This research reveals that poor and working-class people are often considered authentic, loyal, down-to-earth, family-oriented, humble, and practical, whereas middle- and upper-class people are often considered sophisticated, career-oriented, ambitious, confident, open-minded, and influential. This list of characteristics is not comprehensive, but these are items that appear repeatedly in research across disciplines and research methodologies.

Despite research showing that people more often associate negative characteristics with the poor and working classes and positive characteristics with the middle and upper classes, these findings may be partly due to over-reliance on middle- and upper-class participants. When poor and working-class people are sampled, they also endorse positive attributes about their own class (Gorman, 2000; Jackman & Jackman, 1983). For this reason, and to avoid socially desirable responding, I included only positive class-related characteristics (and non-scored distractor characteristics) in the measure of implicit importance.

Participants rated the importance of each of these characteristics for their overall sense of self on a 7-point scale (1 = *extremely unimportant*, 7 = *extremely important*). The full scale, Importance of Self-Descriptions, is presented in Appendix G. To the extent that participants endorse characteristics associated with their objective social class and reject characteristics associated with other classes, we can say that identification with their own class has greater implicit importance in their hierarchical self-concept. Therefore, scores on class-concordant items ranged from 1 (*extremely unimportant*) to 7 (*extremely important*), whereas scores on class-discordant items were reverse-scored and ranged from 7 (*extremely unimportant*) to 1 (*extremely important*). Each participant received a single implicit importance score averaged from the scored items.

The fifth construct in the self-categorization dimension is similarity to the group prototype, also known as goodness-of-fit. I adapted items cited in Ashmore and colleagues (2004) to make them relevant to social-class groups (e.g., “I am a typical member of the poor or working class.”) In addition, I adapted one item from Gurin and colleagues (1980): “People who are poor or working class are very similar to me in their

ideas and interests and feelings about things.” Higher scores on these similarity items reflect a higher degree of perceived similarity between the participant and his or her objective social class.

*Evaluation.* Evaluation consists of one’s own evaluation of the group (private regard) as well as the perceived evaluations of outgroup members (public regard) (Luhtanen & Crocker, 1992). Because Luhtanen and Crocker’s private regard subscale focuses more on emotional than cognitive assessment of the group, I developed new items to measure cognitive evaluation, for example, “Poor and working-class people are just as good as anyone else.” (Luhtanen and Crocker’s private regard items were used to tap the “attachment” construct; see below.) For the public regard construct, I adapted items from Luhtanen and Crocker’s public regard subscale (e.g., “In general, others think that my social class is unworthy”).

*Group Connection.* Group connection consists of attachment to the group, perceived mutual fate with the group, and social embeddedness in the group. Attachment refers to the emotional significance the person attaches to belonging to the group—their positive and negative feelings about their group membership, as opposed to their cognitive appraisal of the group (Ashmore et al., 2004). I adapted items from Luhtanen and Crocker’s (1992) private regard subscale, as well as from Cameron (2004) and from Jackman and Jackman (1983), for example, “Just thinking about the fact that I am a poor or working-class person sometimes gives me bad feelings.”

The mutual-fate construct refers to the perception of group solidarity and common fate (Ashmore et al., 2004; Cameron, 2004); it is closely related to the sociological construct of class consciousness. I adapted items from Jackson (2002), Gurin & Townsend (1986), and Der-Karabetian (1980; all cited in Ashmore et al., 2004) and from Kluegel and Smith (1986). For example, "I believe that the opportunities I have and my outcomes in life are tied to the social class I belong to." One key difference between my items and those of some other authors is that my items ask participants about their own sense of mutual fate with their social class, rather than asking about the notion of class-based mutual fate in the abstract (e.g., "The opportunities people have and their outcomes in life are tied to the social class they belong to."). I believe this operationalization is more appropriate for a measure of psychological identification with one's class.

Social embeddedness refers in part to the number and importance of relationships tied to the individual's class membership. One way of assessing this is simply to ask about the class composition of the person's acquaintances (e.g., "Most of the people in my life are poor or working class") or of their important relationships (e.g., "Most of the important relationships in my life are with poor or working-class people."). Social embeddedness can also refer to the effect on a person's relationships if that identity no longer applied to them (Cassidy & Trew, 2004). For example, "If my social class changed, I probably would not remain as close with certain key people in my life." Finally, Ashmore and colleagues (2004) identified items that tap the degree of interconnection between the self and other people in the group, another possible aspect of social embeddedness (e.g., "When I think about the poor or the working class, I usually think 'we' rather than 'they'" [Mael & Tetrick, 1992]; and "If someone said something

about poor or working-class people, I would feel almost as if they had said it about me,” [Kinket & Verkuyten, 1997]).

*Convergent Validity: Inclusion of Ingroup in the Self*

This single-item measure, developed by Tropp and Wright (2001), is an alternative way of conceptualising collective identity. It is a graphical representation of the degree to which individuals see a given social category as part of their self system. This approach presents participants with a series of Venn-like diagrams with increasing degrees of overlap between two circles, one representing Self and the other representing Group. Participants circle the picture that represents their level of identification with the group, in this case their social class (see Appendix H). Participants completed this measure after the CISC scale, because the CISC scale prompts them to consider multiple dimensions of their class identification. Because of its graphical form, the Inclusion of Ingroup in the Self measure allows participants some interpretive flexibility in order to capture class identification in a global sense. In this way, I hoped that scores on the Inclusion of Ingroup in the Self scale would converge with the multidimensional conceptualization of class identification in the CISC scale and serve as a measure of convergent validity. Typically, convergent validity involves a relatively high correlation between the measure being developed and measures of other theoretically similar constructs (Robinson, Shaver, & Wrightsman, 1999). As there are no other measures that tap people’s psychological identification with their objective social class, an adapted version of this simple measure from Tropp and Wright served as a test of convergent validity.

*Discriminant Validity: Social Attitudes Survey*

Part of the rationale for developing the CISC was that existing class-identity measures confound psychological identification with one's social class with the endorsement of particular political beliefs and policies. Specifically, sociological conflict theory assumes that working-class people should support labour unions, vote for leftist political parties, and decry capitalism. In psychology, social identity theorists similarly assume that for members of disadvantaged minority groups, collective identity often includes support for group members to take collective action to improve the group's position. Because researchers have had limited success in supporting these hypotheses, I did not include a measure of the individual's political attitudes as part of the CISC scale.

Nevertheless, political ideology should not be ignored. Ashmore and colleagues (2004) identified ideology as a dimension of collective identity in their review of theory and research on the topic. Moreover, a strong theme in the literature on social class attitudes in general and on class and education in particular is the existence of an ideology of meritocracy, the view that a person's class position is a function of his or her own abilities and efforts rather than being structurally determined by societal organization.

One reason for developing the CISC scale was to distinguish political attitudes from psychological identification with class, therefore I developed a measure of class-relevant political attitudes to serve as a measure of discriminant validity in the present study. Discriminant validity refers to the degree to which a measure diverges from theoretically dissimilar constructs (Trochim, 2002). Because social class is considered a "master status" (Howard, 2000), it is difficult imagine constructs to which it might be

completely unrelated. Indeed, its known association with a host of psychological variables is one reason that social class and SES are so often statistically controlled in psychological research (Jeynes, 2002).

Kluegel and Smith's (1986) nationally representative telephone survey of American adults is perhaps the most comprehensive study of meritocratic beliefs to date. They did not publish their interview questions as a complete survey, so I borrowed or adapted five items representing each of three core meritocracy beliefs. The first of these beliefs is the existence of equal opportunity (e.g., "In today's society, there is a level playing field for everyone, regardless of their family background."). Second is the belief that success and failure result from individual ability and effort (e.g., "The amount of success that people have in education and at work is based mainly on the abilities they have and the amount of effort they put forward."). Third is the belief in the inherent justice of economic inequality, the notion that rewards should be distributed unequally in society to reflect differences in talent and effort (e.g., "In society, people who have more talent should have more money and status than people who have less talent.").

A related aspect of ideology is intergroup relations. Intergroup relations are a core concern of social identity theory, which examines how subjective beliefs (often ideologically based) affect the choice of individual or collective strategies for achieving a positive collective identity. This choice is thought to depend on beliefs about the legitimacy and stability of group status differences and about the permeability of group boundaries (Hogg et al., 1995). For example, a working-class person who sees class differences as legitimate and stable and believes that people can move from one social class to another through their own efforts (permeability) would be likelier to attempt

individual mobility. The opposite configuration of ideological beliefs would be likelier to lead to a collective strategy such as joining a labour union or anti-poverty group. To capture this component of ideology, I have introduced four items to assess participants' attitudes toward the stability (e.g., "Some people have a lot and some people don't have much at all. That's just the way it is, nothing can be done about it.") and the permeability (e.g., "A person from a poor family can become wealthy through talent and hard work.") of intergroup relations. The legitimacy construct is already captured by several of the meritocracy items. All items were scored from 1 (*strongly disagree*) to 7 (*strongly agree*). The complete ideology scale is presented in Appendix I as the "Social Attitudes Survey."

Research on attributions for economic inequality suggests that there is widespread belief that the class structure is legitimate, stable, and permeable to talented individuals willing to work hard (Bullock, 1999a; Cozzarelli et al., 2001a; Furnham, 1993; Kluegel & Smith, 1986). In addition, members of oppressed groups often believe just as strongly as other groups in the legitimacy of the current social order (Flanagan & Campbell, 2003; Gurin et al., 1980; Kluegel & Smith, 1986). Therefore, I expected that neither people's class position nor their scores on the CISC scale should correlate strongly with people's endorsement of meritocratic views.

### *Balanced Inventory of Desirable Responding*

Social desirability bias can lead to inaccurate self-reports, a potentially serious problem in psychological research. According to Paulhus, author of the Balanced Inventory of Desirable Responding (BIDR, 1991), social desirability consists of two

traits, self-deceptive enhancement and impression management. Self-deceptive enhancement (SDE) refers to the tendency to give truthful but positively biased self-reports. Impression management (IM) refers to deliberately faking responses in an effort to present oneself in a favourable light. The BIDR (see Appendix J, “Inventory of Self-Attitudes”) is a 40-item questionnaire answered on a 7-point scale (1 = *not true*, 7 = *very true*).

Paulhus (1991) reports studies in which the BIDR attained alpha coefficients ranging from .68 to .80 for the SDE scale and .75 to .86 for the IM scale. The total BIDR also demonstrates concurrent validity in its correlation of .71 with the Marlowe-Crowne scale and .80 with the Multidimensional Social Desirability Inventory. Paulhus initially advocated dichotomous scoring (giving points only for extreme responses of 6 or 7) but recent research (Stöber, Dette, & Musch, 2002) indicates a continuous scoring method (counting all responses) produces more reliable results.

### *Design and Procedures*

As a preliminary to Study 1, I tested the CISC scale, the Student Information Survey and the Family Background Index by conducting cognitive interviews with a convenience sample of 16 students from a range of SES backgrounds. I recruited some of these students with on-campus posters, and others were referred by acquaintances. Students from the complete range of SES/class backgrounds were represented. In these interviews, I asked participants to “think aloud” as they completed the questionnaires, using prompts such as, “How did you determine your answer?”, “What does this word mean to you?” and “Give me some examples of what you mean by that” (Kuh et al.,

2006). I analysed the interviews by recording and tabulating participants' responses, focusing on instructions and survey items that were unclear, confusing, or misinterpreted. After each round of approximately 5 interviews, I revised the measures. The revisions consisted of minor changes to wording and formatting that did not alter the meaning of items.

Participants in Study 1 completed a battery of questionnaires in classrooms, in groups of up to 30 people. After giving their informed consent to participate (see Appendix B) participants completed the paper-and-pencil measures in the following order: (1) Importance of Self-Descriptions (measure of implicit importance of CISC, Appendix G); (2) Ladder of Society (measure of subjective salience of CISC, Appendix F); (3) Inventory of Self-Attitudes (BIDR measure of social desirability, Appendix J); (4) Student Information Survey (includes the SES measure "Family Background Index," Appendix D); (5) Social Identity Scale (CISC version appropriate to participant's social class, Appendix E); (6) Identification with Social Class (Inclusion of Ingroup in the Self as a measure of convergent validity; Appendix H); and (7) Social Attitudes Survey (ideology scale as a measure of discriminant validity; Appendix I).

After participants completed the Family Background Index, they showed the results to me so that I could verify their calculation and assure that they understood which class label had been applied to them. I asked participants to approach me one at a time so that I could review results privately and protect their confidentiality. After they completed the questionnaires, participants were asked to sign the participation sheet to obtain their grade-raising credit or their \$10 payment. Finally, each participant received a detailed written debriefing of the study (see Appendix C).

## Results

### *Preliminary Analyses*

Before beginning the exploratory factor analysis, I conducted preliminary analyses to screen for errors in data entry, outliers and missing data and to test the assumptions of normality and linearity. I began by checking the accuracy of data entry by conducting analysis of the frequencies, missing data, means and minimum and maximum values. Wherever necessary, I consulted the original surveys to correct inaccuracies and to fill in missing data. In cases where missing or implausible values could not be corrected from the original data source, I entered 99 to represent a missing value.

### *Missing Values and Assumptions*

After performing Missing Values Analysis (MVA, SPSS 18.0), I identified four participants with more than 5% missing data. One participant had failed to answer nine demographic questions, and the other three had missed most or all of the items on the Social Attitudes Survey (probably because they had run out of time). Because none of these variables was to be used in the factor analysis, I did not estimate scores for the missing values. I eliminated cases 56, 163, and 245 from any analyses involving the Social Attitudes Survey.

I also found that four of the CISC variables had more than 5% missing values. Fifteen participants (4.9%) had failed to indicate others' position on the Ladder of Society scale, a measure of subjective salience in the CISC scale. To preserve the sample

size for factor analysis, I substituted the item means for these values rather than delete the cases.<sup>7</sup>

*Univariate outliers.* For analyses performed on ungrouped data, as in factor analysis, it is appropriate to compute univariate outliers across all cases at once (Tabachnick & Fidell, 2001). Cases 37, 68, 82, 90, 110, 137, 168, 184, 190, 197, 218, 228 and 306 had z-scores greater than 3.29 on at least one CISC variable and were considered potential univariate outliers. Among the continuous variables, I found outliers on the CISC scale (items 8, 15, 17 and 18) and on the Social Attitudes Survey (items 5, 6 and 18). However, before taking action on univariate outliers, Tabachnick and Fidell (2001) recommend checking whether the data contain multivariate outliers.

*Multivariate outliers.* To check for multivariate outliers, I computed Mahalanobis distance scores for all variables in the analysis using the procedure outlined in Tabachnick and Fidell (2001). The cut-off for Mahalanobis scores is the chi-square value with degrees of freedom equal to the number of variables in the analysis with a criterion of  $p < .001$ , in this case chi square = 149.45. None of the Mahalanobis scores reached

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<sup>7</sup> Three variables used in the computation of social class had a high percentage of missing values: Father's Education (5.5%,  $n = 17$ ), Mother's Occupation (7.4%,  $n = 23$ ) and Father's Occupation (6.5%,  $n = 20$ ). These variables usually had missing data because the participant grew up with one parent or because one parent was not employed. These missing data are not problematic, as the formula for Family Class was planned to accommodate such cases, and all 309 participants received a score on Family Background Index and were placed into a Family Class (1 = poor or working class; 2 = middle- or upper-class).

significance. Since the data contained no multivariate outliers, it was unnecessary to take action on the previously identified univariate outliers.

*Normality.* I examined the data's normality using skewness and kurtosis statistics as well as frequency histograms and probability plots. Because nonnormal kurtosis only leads to underestimated variance with samples of 200 or less (Tabachnick & Fidell, 2001, pp. 74-5), kurtosis is not a problem in these data. Skewness statistics are sensitive in large samples, so I examined the frequency histograms and confirmed that these variables appeared skewed. Fabrigar (1999) recommends transformation for variables with skew  $>2$ . The largest skew values in these data were for the following CISC scale items: 1 (-1.674), 15 (-1.573), and 17 (-1.513); therefore, no variables required transformation.

*Linearity.* I used bivariate scatterplots to determine whether the data deviated significantly from linearity. I tested for linear, quadratic, and cubic relations in each pair of variables that appeared to be non-linear. A linear relation was appropriate in all bivariate plots.

#### *Preliminary Analysis of the CISC Scale*

##### *Implicit Importance*

I developed the Importance of Self-Descriptions scale as an ad hoc measure of the implicit importance construct in the CISC. Participants rated the importance to their identity of 18 positive descriptors. Six of these are more often associated with working-class people (e.g., down-to-earth, family-oriented), six are more often associated with

middle-class people (e.g., sophisticated, ambitious) and the remaining six are unscored distractor items. I hypothesized that people would more strongly endorse class-concordant than class-discordant items.

Before proceeding with the factor analysis of the CISC scale, I analyzed the results to establish that the Importance of Self-Descriptions scale was functioning as intended. An independent-samples t-test conducted on raw ISD scores revealed that only two items, those referring to sophistication and authenticity, differed significantly between social classes. Consistent with the literature on class differences (e.g., Gorman, 2000), middle-class participants rated “being a sophisticated person” as significantly more important to their overall sense of self ( $M = 4.99$ ) than did poor or working-class participants ( $M = 4.50$ ;  $t [1,306] = -2.66$ ;  $p < .01$ ). However, poor or working-class participants rated “being an authentic person” as significantly less important to their overall sense of self ( $M = 5.30$ ) than did middle- or upper-class participants ( $M = 5.70$ ;  $t [1, 304] = -2.53$ ;  $p < .05$ ), a finding that contradicts the literature on class differences. Despite the statistically significant differences between the social class groups on these two variables, the differences were very small in magnitude and did not warrant further investigation.

Because the ISD scale includes only positive self-descriptors, I anticipated that the scale may have problems with social desirability. I confirmed this by correlating ISD items with BIDR scores. I found that BIDR scores were significantly correlated with responses to four ISD items (family oriented, loyal, confident, and humble). However, analysis of covariance controlling for BIDR scores did not change the pattern of results.

This suggests that the ISD is of limited value in measuring the implicit importance construct. Consequently, I did not include the ISD in other analyses of the CISC scale.

### *Convergent Validity*

Participants' scores on the single-item Inclusion of Ingroup in the Self scale ( $M = 4.07$ ) were significantly correlated with average scores on the overall Collective Identity of Social Class scale ( $M = 4.22$ ;  $r = .55$ ,  $p < .001$ ). This suggests that the Collective Identity of Social Class scale has good convergent validity with the Venn-diagram measure that taps overall level of identification with the group (Tropp & Wright, 2001).

### *Subjective Salience*

To measure the subjective salience of participants' SES, I used a modified version of the ladder method to measure the perceived distance between themselves and the average SES of others they encounter in academic settings on a 7-point "Ladder of Society" (highest SES = 1, lowest SES = 7). As this was an ad hoc measure, I conducted preliminary analyses to ensure the scale functioned as intended.

The mean placement of self on the ladder scale was 3.48 ( $SD = 1.04$ ), and the mean placement of others was 3.54 ( $SD = .84$ ). I computed subjective salience by subtracting ladder scores for others from ladder scores for self; the mean difference was .061 and the modal difference was 0, with a range from -3 (4.1% of participants) to 3 (1.3%). Overall, a large majority of participants perceived almost no socioeconomic distance between themselves and others.

Participants' placement of self on the ladder was significantly correlated with their SES as measured by the Family Background Index ( $r = -.40, p < .001$ ); the higher a participant's SES, the higher they tended to place themselves on the ladder. This is in line with previous research and provides supporting evidence for the face validity of the scale.

The placement of others on the ladder was not significantly correlated with SES scores ( $r = .11$ ), but subjective salience was significantly correlated with SES ( $r = .41, p < .001$ ). The higher the participants' SES, the greater the socioeconomic distance they perceived between themselves and others, a finding that is opposite to the prediction of greater salience for those in the poor- or working-class minority.

#### *Discriminant Validity*

The Social Attitudes Survey is a 19-item ad hoc test of meritocratic political beliefs. The scale demonstrate good internal consistency (Cronbach's  $\alpha = .83$ ). As predicted, scores on the CISC scale were not significantly correlated with scores on the Social Attitudes Survey, suggesting that CISC discriminates between political ideology and psychological class identification. Scores on the Social Attitudes Survey did not differ significantly between middle-class ( $M = 4.15$ ) and working-class ( $M = 4.10$ ) participants, and were not significantly correlated with overall SES as measured by the Family Background Index, but they were significantly correlated with one component of SES, father's occupation ( $r = .18, p < .01$ ); participants whose fathers had higher-status jobs gave stronger endorsement of meritocratic beliefs.

*Social Desirability*

Recall that responses to the Balanced Inventory of Desirable Responding social desirability scale (Paulhus, 1991) can be analysed using dichotomous scoring (counting only extreme responses) or continuous scoring (counting all responses; Stöber et al., 2002). The association between social desirability and overall scores on the CISC was not significant using either of these methods. However, the continuously scored BIDR did have a small but significant correlation with the CISC factor Salience and Importance ( $r = -.12, p < .05$ ). Correlations of this magnitude do not appear to warrant controlling for social desirability in statistical analyses, especially given recent cautions that the BIDR needs further validation (Leite & Beretvas, 2005). Scores on the BIDR were not significantly correlated with any of the key demographic variables such as the socioeconomic measures or with grades in high school or at university.

*Demographic Analyses*

CISC scores did not differ significantly across ethnic group or sex, but they did differ significantly across academic major, part-time or full-time study and social class. Of the 308 participants who indicated their racial/ethnic group, 168 (54.4%) said they were White and 140 (45.3%) said they belonged to one of the other ethnic groups listed (i.e., Chinese [13%,  $n = 40$ ], Black [7.8%,  $n = 24$ ], South Asian [6.8%,  $n = 21$ ], Arab/West Asian [4.5%,  $n = 14$ ], Latin American [3.2%,  $n = 10$ ], Japanese [1.9%,  $n = 6$ ], South East Asian [1.0%,  $n = 3$ ], Korean [1.0%,  $n = 3$ ], Aboriginal [1.0%,  $n = 3$ ], or “other” [4.5%,  $n = 14$ ]). An independent-samples t-test found no significant differences in CISC scores between the two groups (Whites = 4.24, Others = 4.18). I also conducted

a one-way analysis of variance to test differences in average CISC scores across all ethnic groups, but this produced no significant results. An independent-samples t-test found no significant differences in mean CISC scores between men ( $n = 104$ ,  $M = 4.25$ ) and women ( $n = 205$ ,  $M = 4.31$ ).

CISC scores did show small but significant differences across academic major ( $F = 3.29$ ,  $df [4, 304]$ ,  $p < .05$ ). Post-hoc tests using a Bonferroni correction indicated that the only significant differences were between students with an undeclared major ( $n = 29$ ,  $M = 3.79$ ) and each of the other groups. Students majoring in social sciences ( $n = 138$ ,  $M = 4.28$ ), business ( $n = 42$ ,  $M = 4.33$ ), arts and humanities ( $n = 46$ ,  $M = 4.40$ ), and mathematics, sciences and engineering ( $n = 54$ ,  $M = 4.44$ ) did not differ significantly from each other in their level of class identification. Full-time students ( $n = 260$ ,  $M = 4.34$ ) also scored significantly higher on the CISC than part-time students ( $n = 47$ ,  $M = 4.00$ ),  $t [1, 305] = 2.59$ ,  $p < .05$ ); on average, full-time students had stronger class identity than part-time students.

On average, middle-class participants ( $n = 231$ ) scored significantly higher on the CISC ( $M = 4.31$ ) than did working-class participants ( $n = 78$ ;  $M = 3.92$ ),  $t (1, 287) = -5.23$ ,  $p = .001$ . The bivariate correlation between SES and CISC scores was also significant ( $r = .18$ ,  $p < .01$ ); the higher participants scored on the SES, the higher their scores on class identity.

### *Exploratory Factor Analysis*

In the first stage of the analysis, in order to identify items that were not related to the construct being measured and to enhance reliability, I calculated inter-item

correlations and corrected item-scale correlations for the initial pool of items in the CISC scale. Fifteen items had corrected item-scale correlations less than .25 and inter-item correlations less than .30 and were eliminated. These items of the CISC scale included those measuring similarity (12, 13, 14), private regard (15, 16, 17, 18) and public regard (19, 20, 21),<sup>8</sup> two items measuring subjective salience (8 and the item computed from the “Ladder of Society”), and one item measuring attachment (22), mutual fate (29) and embeddedness (32). I deleted all of these items from subsequent analyses in the Study 1 factor analysis. In total, 20 items remained in the CISC scale for Study 1.

In the second stage of the analysis, I used exploratory factor analysis with Principal Axis Factoring as the extraction method to explore the structure of the CISC scale. Bartlett’s Test of Sphericity was significant ( $p < .05$ ) indicating sampling adequacy. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was more than .8, indicating reliability of the analysis based on the sample employed. Bartlett’s test of Sphericity and the KMO also indicated sampling adequacy and reliability of the analysis in working- and middle-class subsamples.

To determine the number of factors, various methods are appropriate, including Eigenvalues (Kaiser criterion), parallel analysis, and the visual inspection of scree plots. Using the Kaiser criterion, I identified six factors with Eigenvalues greater than 1, indicating a six-factor solution. I expected that parallel analysis would reveal comparatively fewer factors, but instead it indicated that seven of the real-data (observed)

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<sup>8</sup> Because the private and public regard constructs are considered theoretically important dimensions of collective identity, I retained them as part of the revised CISC scale given to participants in Study 2 in order to subject them to further empirical testing in a second sample.

Eigenvalues exceeded the 95<sup>th</sup> percentile of the random-data distribution of Eigenvalues (O'Connor, 2000), indicating a seven-factor solution.

Because the average communality of the items was less than .60, the Kaiser criterion may have overestimated the number of factors. Given the large sample size ( $n > 300$ ) and the fact that there were fewer than 30 items in the CISC scale, I opted to determine the number of factors by inspecting the scree plots. Based on this method, I identified four factors in the CISC. Finally, I compared the four-, six- and seven-factor solutions, examined them theoretically, and also compared them within each social class subgroup. All of these analyses and comparisons demonstrated the stability and theoretical soundness of the four-factor solution.

To enhance the interpretability of the factor solution, I conducted an oblique (i.e., oblimin) rotation. I chose oblique rather than orthogonal rotation because oblique rotation is considered appropriate when factors have correlations greater than .30 (Tabachnik & Fidell, 2007) and when the constructs are expected to be correlated with each other theoretically (see Field, 2005). Although CISC is a new construct, the social identity literature suggests that identity constructs are often related. For example, Obst & White (2005) found that correlations among centrality, ingroup affect and ingroup ties ranged from .29 to .57. Cameron (2004) also found moderate correlations among social identity factors in five separate studies. Similarly, Ashmore and colleagues (2004) report a wide range of covariation among collective identity elements, depending on the identity being measured and the sample. The CISC factors were correlated in my sample; correlations among factors ranged from .33 to .44 in the total sample, from .37 to .41 in the working-class subgroup, and from .26 to .38 in the middle-class subgroup. Just to be sure, I

conducted the EFA with a varimax rotation and found it led to a very similar factor solution to the oblimin rotation.

After factor extraction, the four-factor solution explained a total of 47% of the variance in the total sample data set, 50% in the working-class subsample and 47% in the middle-class subsample. Rotation sums of squared loadings for the four-factor solution were 3.7, 3.5, 2.8 and 2.6 for the four factors respectively, indicating a relatively equalized contribution of each factor after rotation. Each of the factors is explained below.

Factor 1, labeled *Attachment and Embeddedness*, contains seven items that focus on feelings about one's class and about belonging to it as well as the extent to which one's social networks are dominated by same-class others. Higher scores on this factor indicate stronger positive feelings about one's class and more social embeddedness with same-class others.

Factor 2, labeled *Certainty of Self-categorization*, consists of five items that measure participants' certainty and agreement about the class label they were assigned using the SES measure. Higher scores on this factor indicate more certainty about and agreement with one's objective class placement.

Factor 3, labeled *Salience and Importance*, consists of five items that measure how often participants think about their social class and how significant it is to their overall identity. Higher scores on this factor indicate that one's class is more salient and important to one's identity.

Factor 4, labeled *Mutual Fate*, consists of three items that assess participants' beliefs about how much their own opportunities and outcomes are influenced by their

class membership. Higher scores on this factor indicate a stronger belief that one's life chances are linked to one's class background.

Inspection of the structure matrix supported and enhanced the interpretation of the four factors, though only the pattern matrix is presented below. As shown in the pattern matrix (Table 3), there are some minor cross-loadings between the attachment and salience factors (items 10, 33 and 34) and between the self-categorization and mutual fate factors (item 26), but all of these are less than .30. Overall, the pattern matrix shows that a simple factor solution was found. It should be noted that the factor loading of one item related to the salience and importance factor was slightly less than .45. I chose to retain this item as part of the CISC scale rather than eliminate it because of its theoretical significance and in order to further test its performance in Study 2.

Table 3. Factor Loadings<sup>b</sup> and Communalities Based on Exploratory Factor Analysis with Oblimin Rotation.

Item #	Variable	Factor <sup>a</sup>				<i>h</i> <sup>2</sup>
		1	2	3	4	
24	In general, I have warm feelings toward working-(middle-) class people.	<b>.69</b>				.42
23	In general, I feel close to the working (middle) class.	<b>.60</b>				.53
31	Most of the important relationships in my life are with working- (middle-) class people.	<b>.56</b>				.43
30	Most of the people in my life are working (middle) class.	<b>.55</b>				.43
25	Generally, I feel good when I think about belonging to the working (middle) class.	<b>.50</b>				.40
33	When I think about working- (middle-) class people, I usually think “we” rather than “they.”	<b>.46</b>		.20		.31
34	If someone said something about working- (middle-) class people, I would feel almost as if they had said it about me.	<b>.45</b>		.29		.34
3R	I’m not totally sure that I’m a working- (middle-) class person.		<b>-.80</b>			.60
4R	I can’t decide whether I’m poor/working class or middle/upper class.		<b>-.77</b>			.58
2	On the Student Information Survey you provided information about your family background that suggests you are a working- (middle-) class person. How certain do you feel that this label accurately categorized you?		<b>-.73</b>			.67
5R	I get very confused when I try to figure out my own social class.		<b>-.70</b>			.48

Item #	Variable	Factor <sup>a</sup>				<i>h</i> <sup>2</sup>
		1	2	3	4	
1	According to the Student Information Survey you completed, social scientists would say that you are from a working- (middle-) class background. Do you agree that this is the social class you belong to?		<b>-.64</b>			.55
7R	The fact that I am a working- (middle-) class person rarely enters my mind.			<b>.69</b>		.47
6	In my everyday life, I often think about the fact that I am a working- (middle-) class person.			<b>.69</b>		.49
11	In general, belonging to the working (middle) class is an important part of my self-image.			<b>.60</b>		.52
10	Overall, belonging to the working (middle) class is an important reflection of who I am.	.23		<b>.57</b>		.46
9R	The social class I belong to is unimportant to my sense of what kind of person I am.			<b>.43</b>		.23
27	What happens to working- (middle-) class people generally will have something to do with what happens in my life.				<b>.77</b>	.61
28	My fate and my future are bound up with those of working- (middle-) class people everywhere.				<b>.59</b>	.46
26	I believe the opportunities I have and my outcomes in life are tied to the social class I belong to.		-.24		<b>.51</b>	.43

<sup>a</sup> Factor 1 = Attachment and Embeddedness; 2 = Certainty of Self-categorization; 3 = Salience and Importance; 4 = Mutual Fate.

<sup>b</sup> Factor loadings less than .20 are suppressed.

*h*<sup>2</sup> = communalities

Items numbers followed by "R" indicate reverse-scored items.

I computed a mean score for each of the CISC factors as well as for the overall CISC scale using the items listed in the pattern matrix presented in Table 3. These are presented in Table 4, along with the internal consistency statistics for the four factors. All of the factors had acceptable internal consistency, with Cronbach's alpha ranging from .72 to .88, as well as minimal skewness and kurtosis. Bivariate correlations among the factors were low to moderate. The highest correlation was between *Attachment and Embeddedness* and *Mutual Fate*.

Table 4. Descriptive Statistics and Correlations for Four-factor Solution.

	Mean	Std. Dev.	Items	Cronbach's $\alpha$	Skewness	Kurtosis	Correlation <sup>a</sup>			
							1	2	3	4
1	4.47	1.02	7	.80	-.29	-.38	1.00	.38	.34	.44
2	5.35	1.25	5	.88	-.60	-.62		1.00	.18	.26
3	3.21	1.27	5	.77	-.19	-.68			1.00	.39
4	3.91	1.28	3	.72	-.22	-.40				1.00

1 = Attachment & Embeddedness, 2 = Certainty of Self-categorization, 3 = Salience & Importance, 4 = Mutual Fate.

<sup>a</sup> All correlations were significant at the .01 level (two-tailed).

*Relations between Rotated CISC Factors and Other Independent Variables*

I tested the bivariate correlations between the four CISC factors and demographic measures such as socioeconomic measures, educational aspirations, age, high school average, and other scales and subscales in this study. Overall scores on the CISC were significantly correlated with socioeconomic status as measured by the Family Background Index ( $r = .18, p < .01$ ), as well as with all four components of the SES measure (mother's and father's education and occupation). Attachment and Embeddedness was significantly correlated only with father's occupation ( $r = .12, p < .05$ ); respondents whose fathers had higher-status occupations felt more attachment to and embeddedness in their social class. Certainty of Self-categorization was significantly correlated with socioeconomic status ( $r = .26, p < .01$ ), including mother's and father's education and occupation; the higher the respondent's SES score, the more certain he or she was about the assigned social class. Mutual Fate was correlated with socioeconomic status ( $r = .20, p < .01$ ), including all parental occupation and education variables; the higher a respondent's SES, the more he or she agreed that his or her fate is similar to the fate of others in the same class.

Respondents' educational aspirations were significantly correlated with overall scores on the CISC ( $r = .13, p < .05$ ) and with the CISC factors Salience and Importance ( $r = .13, p < .01$ ) and Certainty of self-categorization ( $r = .17, p < .01$ ). Participants' high school average was not significantly correlated with overall CISC scores nor was it correlated with any of the CISC factors.

The Salience and Importance factor was significantly associated with participants' age ( $r = .15, p < .05$ ) and year of study ( $r = .14, p < .05$ ). The salience and importance of

participants' social class increased as they got older and as they became more advanced in their studies.

### *Chapter Summary*

In this chapter, I described the procedures I implemented to develop the Collective Identity of Social Class scale and the results of my analyses. I used exploratory factor analysis to establish the content and underlying structure of the CISC construct. In the first stage of the analysis, I deleted items with low inter-item correlations and corrected item-scale correlations in order to enhance the scale's reliability and identify items that were not related to the class-identity construct. In the second stage, I conducted the factor analysis to explore the structure of the CISC scale. I obtained a four-factor solution that was theoretically sound and stable across working- and middle-class subsamples. To make this factor solution easier to interpret, I conducted an oblique rotation. After factor extraction, the four-factor solution accounted for 47% of the variance in the data. I labelled the four resulting factors as follows: 1) *Attachment and Embeddedness*, 2) *Certainty of Self-Categorization*, 3) *Salience and Importance* and 4) *Mutual Fate*. Mean scores on these factors ranged from 3.21 for *Salience and Importance* to 5.35 for *Certainty of Self-categorization*. All factor intercorrelations were positive, low to moderate in magnitude, and statistically significant.

Some of the elements I had proposed as part of the class-identity construct were not retained. Specifically, my analyses did not find sufficient grounds to retain measures of implicit importance, similarity, and evaluation as part of the CISC scale. Nevertheless, because of the theoretical importance of the evaluation construct for collective identity, I

opted to use those items in Study 2 to investigate any association between evaluation and the class-identity measure.

In this chapter, I also reported associations between class identity and relevant demographic measures. Middle-class and higher-SES participants scored significantly higher on class identity than working-class and lower-SES participants. Class identity scores did not differ based on participants' sex or ethnicity.

The results provided evidence for the scale's reliability and validity. Specifically, the CISC scale and its four subscales met the standards for internal consistency as measured by Cronbach's alpha coefficient, providing evidence of the measure's reliability. Scores on the CISC scale were not significantly correlated with socially desirable responding, providing evidence for the scale's validity. A moderately strong correlation between class-identity scores and a graphical measure of group identification demonstrated evidence of concurrent validity. Finally, the fact that class identity scores were not associated with meritocratic ideology provided evidence for the CISC scale's discriminant validity.

In the next chapter, I describe the methods, procedures, and results of a second study in which I used confirmatory factor analysis to verify the CISC scale's factor structure. Study 2 also provided a test of my model in terms of the role of class identity, academic self-concept, and student engagement in mediating the relation between socioeconomic status and student achievement.

## CHAPTER 7

### STUDY 2

#### COLLECTIVE IDENTITY OF SOCIAL CLASS AND STUDENT ACHIEVEMENT

##### *Purpose*

The main purpose of the second study was to examine the role of class identity, academic self-concept, and student engagement, as well as high school average, in mediating the influence of students' socioeconomic background on their academic achievement in university. I used a three-stage process to test a structural equation model of these relations. First, I conducted a confirmatory factor analysis to ensure that each of the model's latent constructs was adequately measured. Second, I tested the structural model to assess the magnitude, direction and significance of the hypothesized relations among the latent constructs. I also tested the model separately for working- and middle-class subsamples to examine how the relations differed for these groups. Finally, I used a multiple-group analysis to assess whether or not any of the differences between the groups were statistically significant.

##### *Method and Procedures*

###### *Participants*

A total of 454 students participated in Study 2. As a general rule in structural equation modelling, 300 participants is considered a "good" sample size and 500 is considered "very good" (Ullman, 2001). The sample consisted of 162 men (35.7%) and 292 women (64.3%) with an average age of 19.9 years. Participants majored in all

academic disciplines, but the most common were psychology (24.7%), criminology (10.7%), business (9.1%) and law (7.8%). Participants who had not yet declared a major made up another 11.8% of the sample.

Responses to the Family Background Index indicated that most students were from middle-class backgrounds (74.2%) and the remainder were from working-class backgrounds (25.9%). Most participants (84.7%) were Canadian citizens. Of the 451 participants who indicated their racial/ethnic group, 245 (54.3%) said they were White and 206 (45.7%) said they belonged to one of the other ethnic groups listed (i.e., Black [12.6%,  $n = 57$ ], Arab/West Asian [7.5%,  $n = 34$ ], Chinese [7.3%,  $n = 33$ ], South Asian [7.1%,  $n = 32$ ], Latin American [3.1%,  $n = 14$ ], Korean [1.1%,  $n = 5$ ], Filipino [0.9%,  $n = 4$ ], South East Asian [0.7%,  $n = 3$ ], Aboriginal [0.4%,  $n = 2$ ]).

### *Measures*

Several of the measures from Study 1 were used again without changes in Study 2: the Student Information Survey (used to collect general demographic data as well as the socioeconomic information used to establish participants' social class), the Balanced Inventory of Desirable Responding, the Inclusion of Ingroup in the Self, and the meritocratic ideology scale. Study 2 also included the revised Collective Identity of Social Class scale, the Academic Self-concept Scale, and the National Survey of Student Engagement.

*Collective Identity of Social Class Scale*

Participants completed a revised Collective Identity of Social Class (CISC) scale that resulted from the development procedures and exploratory factor analysis in Study 1. The revised questionnaire consisted of 28 items; 20 of these items were retained from the original CISC scale after the factor analysis in Study 1. The other items were 7 public and private regard items from the original CISC and one new private regard item (“In general, I believe working-class (or poor) people are at least as important as middle- and upper-class people”). Even though all public and private regard items were excluded from the CISC during the exploratory factor analysis in Study 1, I included them in Study 2 for further examination in a second sample, due to the theoretical importance of these two constructs. The CISC scale for Study 2 is presented in Appendix E as the “Social Identity Scale.”

*Academic Self-concept Scale*

Participants completed Reynolds and colleagues’ (1980) Academic Self-Concept scale (“University Attitudes Survey,” Appendix K). I modified the scale by changing the word “college” to “university” wherever it appeared. The original scale has a reported Cronbach’s alpha coefficient of .91 (Britt & Kim, 1996) to .95 (Cokley, 2002). Scores on the ASCS consistently demonstrate a positive correlation with college/university GPA (e.g.,  $r = .52$ , Reynolds, 1988;  $r = .47$ , Cokley & Chapman, 2008).

*National Survey of Student Engagement*

The final measure was the National Survey of Student Engagement (NSSE; see Kuh et al., 2005). The NSSE contains items that measure five dimensions of self-reported student engagement: academic challenge (11 items), active and collaborative learning (7 items), student-faculty interaction (6 items), enriching educational experiences (12 items), and supportive campus environment (5 items). The scale is presented in Appendix L as the “Student Experience Survey.”

The five NSSE dimensions represent elements of Astin’s (1993) student involvement model, Tinto’s (1993) student integration model, and Bean and Metzner’s (1985) student attrition model. For example, the NSSE’s enriching educational experiences subscale asks how many co-curricular activities (organizations, publications, student government, sports, etc.) the student has experienced, capturing part of Astin’s involvement construct. The NSSE measures both perceptions of the opportunities for engagement that are available to students, as well as self-reports of the frequency with which they take up these opportunities. For example, the academic challenge subscale includes an item that asks students about the number of readings assigned to them as well as an item that asks them how much time they spend preparing for classes.

Research using the NSSE suggests that institutions that provide more opportunities in these five domains have better student outcomes even when relevant student background variables like parental education are controlled. Within institutions, students who take greater advantage of the opportunities in each domain are considered more engaged and therefore likelier to succeed academically (Kuh et al., 2005). Each of the NSSE factors is positively correlated with student GPA, with correlations for first-

and fourth-year students ranging from  $r = .10$  to  $.12$  respectively (for supportive campus environment) to  $r = .17$  to  $.15$  respectively (for active and collaborative learning) (Kuh, 2002).

A recent report on the NSSE's reliability and validity (Kuh et al., 2006) indicated that some of the internal consistency scores for three of the subscales fell below the recommended Cronbach's alpha of  $.70$ , particularly for first-year students (Enriching Educational Experiences =  $.61$ , Active and Collaborative Learning =  $.62$ , and Student-faculty Interaction =  $.68$ ). The report also revealed that a number of items were regularly misinterpreted, particularly by students from groups that tend to be educationally disadvantaged. Therefore, I made several minor revisions to the scale's items. For example, I modified the original item "participate in a learning community or some other formal program where groups of students take two or more classes together" by underlining the words "formal program" because participants inappropriately included taking classes with their friends. The complete list of revisions is presented in Appendix M.

### *Prior Academic Achievement*

High school average was used as the measure of prior academic achievement. Respondents were asked to indicate their high school grades on the Student Information Survey. In a recent meta-analysis, self-reported grades had limited validity and the degree of accuracy was strongly moderated by actual school performance (Kuncel, Credé, & Thomas, 2005). Therefore, I also obtained students' permission to verify their high school grades through Banner, the university's student information system, during the

Informed Consent procedure (see Appendix B). The Banner system does not contain high school grades for all students (e.g., those admitted as “Special” or “mature” students, and many out-of-province students), but I was able to confirm that students in the current study reported their grades reliably. The Banner system contained high school averages for 344 participants (75.8%). None of these deviated more than 3.1 percentage points from the self-reported grade and the average difference was only .04 percentage points. When necessary, I replaced inaccurate self-reported high-school grades with the official grade reported in Banner. A high school average was either self-reported or obtained from Banner for 90% of participants ( $n = 409$ ).

### *Academic Achievement*

Academic achievement in this study was operationalized as the university grade-point average (GPA) at the end of the academic year in which the student participated in the study. The university’s grade-point average is measured on a 13-point scale (0 = F, 12 = A+). Students were asked for their permission to obtain their university GPA from the Banner system as part of the Informed Consent procedure.

### *Procedure*

Participants for Study 2 were recruited and compensated in the same fashion as in Study 1. Appendix A contains a sample of the recruitment notices and posters I used for Study 2. Following completion of the Informed Consent procedure (Appendix B), participants completed a set of paper-and-pencil measures in the following order: 1) National Survey of Student Engagement (“Student Experiences Survey,” Appendix L);

2) Academic Self-Concept Scale (“University Attitudes Survey,” Appendix K); 3) the Balanced Inventory of Desirable Responding (“Inventory of Self-Attitudes,” Appendix J); 4) the Student Information Survey (Appendix D); 5) Collective Identity of Social Class scale (“Social Identity Scale,” Appendix E); 6) the Inclusion of Ingroup in the Self scale (“Identification with Social Class,” Appendix H); and 7) the meritocratic ideology scale (“Social Attitudes Survey,” Appendix I). The remaining procedures were identical to those used in Study 1. After participants had given their informed consent and completed the battery of questionnaires, I asked them to sign the participation sheet to obtain their grade-raising credit or their \$10 payment. Finally, each participant received a detailed written debriefing of the study.

## Results

### *Missing Values and Assumptions*

Before conducting the main analyses of the model, I screened the data. Missing Values Analysis (SPSS 18.0) revealed that only one variable had more than 5% missing data: 45 participants (9.9%) had a missing high school average. However, Little’s MCAR test revealed that these data were missing completely at random ( $\chi^2 = 179.78$ ,  $df = 164$ ,  $p = .189$ ). When the percentage of missing data for most variables is less than 5% and the pattern of missing data is random, any procedure for handling missing data leads to similar results (Tabachnick & Fidell, 2007). To be sure, before substituting any missing data, I created a dummy variable to distinguish cases with and without a reported high school GPA.

I chose to substitute missing data using the Expectation Maximization method, which uses maximum-likelihood estimation to impute missing data at the item level. For each variable with missing data, I imputed the missing values using items that were theoretically related to it and/or non-missing data from items on the same scale. I conducted Expectation Maximization analysis in four stages to replace missing values for: 1) university GPA (using high school average, parental education and parental occupation); 2) CISC scale (using non-missing CISC items as well as parental education and occupation); 3) Academic Self-Concept scale (using non-missing ASC items); and 4) remaining variables used in the analyses (e.g., meritocracy scale, social desirability scale).

I calculated missing values on the NSSE scale using the established method used by NSSE, in which researchers calculate subscale items using a maximum allowable number of missing values per case. I eliminated two cases because they had more than 40% missing values on the NSSE measure and it was not possible to calculate several of these individuals' NSSE subscale scores. After these procedures, I substituted any remaining missing NSSE values using the EM method at the item level.

After substituting missing values, I calculated scale and subscale scores, then produced two correlation matrices, one using the original data set and one using the new data set with missing values substituted. A comparison of the two correlation matrices revealed no noticeable differences, including correlations involving high school average, the only variable with more than 5% missing data.

*Assumptions*

*Univariate normality.* Before proceeding with the analysis of the structural model, I verified that the data to be modeled met the required statistical assumptions. First, I checked for univariate normality. Kolmogorov-Smirnov tests indicated that most variables were non-normal. Because these tests are overly sensitive to large sample sizes, I examined the histograms, box plots and probability plots and assessed standardized skewness and kurtosis based on the recommendations of Tabachnik and Fidell (2007). These revealed that five variables were potentially problematic. Specifically, public regard, private regard, Student-Faculty Interaction, parental occupation, and academic self-concept had standardized skewness and/or kurtosis that exceeded an absolute value of  $z = 3.29$ , indicating univariate non-normality. Before deciding how to deal with non-normality in these variables, I checked whether univariate outliers might be the cause.

*Univariate outliers.* One potential cause of univariate non-normality is the presence of extreme cases or “outliers.” I checked for univariate outliers by calculating individual  $z$ -scores for all variables and identifying scores that exceeded an absolute value of 3.29, as recommended by Tabachnik and Fidell (2007). Several variables had univariate outliers: public regard, private regard, Academic Challenge (NSSE), Student-Faculty Interaction (NSSE), Enriching Educational Experiences (NSSE) and parental education each had one univariate outlier; Attachment and Embeddedness (CISC) and academic self-concept each had two outliers. In this study, with a relatively large sample and a limited number of outliers, it is acceptable to either eliminate cases or adjust the values of extreme data points. I chose not to eliminate cases. Instead, I adjusted the

values of extreme scores by bringing them into the acceptable range, close to the value of the next most extreme case and such that the z-scores were less than an absolute value of 3.29. A comparison of the correlation matrix and variable means before and after outlier adjustments revealed no meaningful changes.

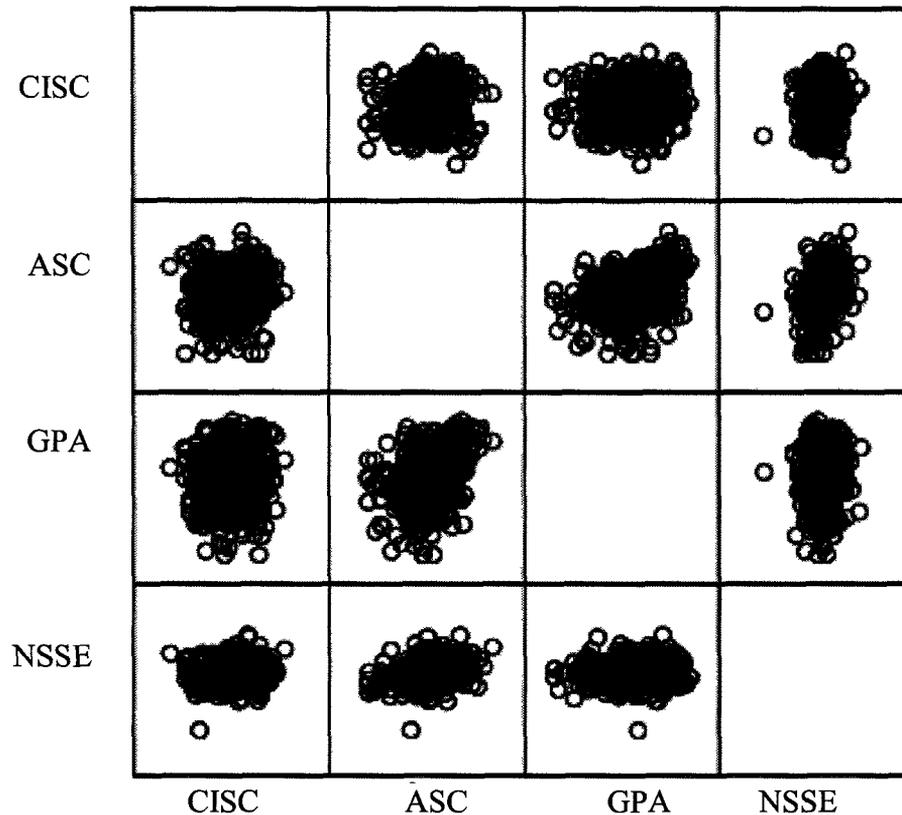
To determine if adjusting the outliers reduced the problem of non-normality, I checked univariate normality again. Several variables still had problematic skewness statistics; therefore, I transformed the most extremely skewed variables. Student-faculty Interaction (NSSE) was positively skewed, requiring only a simple square-root transformation. Private regard, public regard and parental occupation were negatively skewed, and therefore required reflection (i.e., subtracting scores from a constant that is larger than any other score on that variable) before performing a square-root transformation. This transformation succeeded in bringing standardized skewness into the acceptable range for these three variables. The use of reflection makes it necessary to interpret the transformed variables in the opposite direction of the original scale. For example, *higher* scores on the transformed private regard variable actually reflect *lower* private regard (Tabachnick & Fidell, 2001, p. 81).

*Linearity and homoscedasticity.* Finally, I checked pairwise plots for cases of nonlinearity and heteroscedasticity. The plots showed no cases of non-linearity or heteroscedasticity. Figure 1, depicting the relation between university GPA, collective identity of social class, student engagement, and academic self-concept, is representative.

*Multivariate outliers.* With univariate normality established, I checked for multivariate outliers. I identified six cases with significant Mahalanobis distance scores (greater than  $\chi^2 = 55.47$ ,  $df = 27$ ,  $p < .001$ ), indicating the presence of multivariate outliers. However, all of these cases had Cook's Distance scores less than 1.0, indicating that the multivariate outliers were not influential and could be safely ignored.

*Multicollinearity and singularity.* I checked for Multicollinearity using several methods. There were no correlations greater than .70 among the independent variables (Tabachnick & Fidell, 2007). In fact, the correlations among observed variables ranged from .00 to .64. All of the variance inflation factors were less than 2.0, far below the recommended critical value of 10.0 (Kline, 2005). Singularity is automatically evaluated by the AMOS program, which found no incidence of a covariance matrix that was not positive definite. In other words, AMOS determined that the reverse matrix could be produced (Tabachnik & Fidell, 2007).

Figure 1. Linearity and homoscedasticity.



*Note.* CISC = Collective Identity of Social Class; ASC = Academic Self-concept; GPA = Grade Point Average; NSSE = National Survey of Student Engagement.

*Multivariate normality.* Next, I checked multivariate normality for the measurement and structural models. Multivariate kurtosis values were greater than the established critical value of 10, indicating strong multivariate non-normality. I calculated Mardia's test of multivariate kurtosis (Mardia, 1970, 1974) at each stage of model testing and within all subsamples. When the results of Mardia's test were not significant, I tested the structural model using maximum-likelihood estimation. When the results were significant, I used bootstrapping estimation of parameters.

*Overview of Data Analysis*

The purpose of structural equation modeling is to estimate relations among latent (unobserved) constructs and measured (observed) variables. Structural equation models consist of two major components, a measurement model and a structural or path model. The structural model refers to a specified set of relations among latent constructs and observed variables. The measurement model refers to the pattern of indicator variables for the latent constructs in the model (Schreiber, Stage, King, Nora, & Barlow, 2006). These indicators can be single items on a questionnaire, subscale scores, or “parcels” of statistically aggregated items (Bandalos & Finney, 2001; Boomsa, 2000).

The hypothesized model is represented with a path diagram that uses arrows to show which latent constructs are related and the direction of influence. Indicator variables are depicted in rectangles and latent variables are depicted in ovals (see Figure 5). Because SEM allows researchers to incorporate hypotheses about measurement error into the model, various types of error terms and their correlations may also be depicted (e.g., see Figure 4).

The SEM procedure combines aspects of factor analysis and multiple regression. First, the measurement model is tested using confirmatory factor analysis to see if the measured variables adequately define the latent constructs. Tests of the measurement model reveal how well the chosen indicators represent the latent constructs, as well as providing statistical modification indices that indicate changes that could improve the model. The main purpose of the CFA is to obtain the best possible indicators of the latent constructs before conducting tests of the structural model (Schreiber et al., 2006).

The second step of the SEM procedure is to test the structural model to see if the latent variables are related as predicted. The statistical significance and magnitude of each of the hypothesized direct and indirect effects is obtained from the parameter estimates for the individual paths in the model. In both stages of the SEM procedure, the overall acceptability of the measurement or structural model is established using a selection of “fit” statistics that indicate how closely the hypothesized model resembles the relations found in the actual data (Hoyle, 1995).

I used confirmatory factor analysis to test the measurement model and structural equation modeling (SEM) analyses (with AMOS 18) to test the hypothesized structural model. When my data violated the assumption of multivariate normality, I used a resampling (bootstrapping) method instead of maximum-likelihood estimation. Given the sensitivity of the significance test of the chi-square fit index ( $\chi^2$ ) to a relative large sample and to departures from multivariate normality, I evaluated model fit based on other indices: bootstrap  $\chi^2$ , Bollen-Stine bootstrap  $p$ , the standardized root mean square residual (SRMR), the comparative fit index (CFI; Bentler, 1990), the goodness of fit index (GFI) and/or the root mean square error of approximation (RMSEA; Steiger & Lind, 1980).

To define the academic self-concept latent variable, I used an item-to-construct balance approach to parceling and calculated two indicators of the construct. Given the multidimensional nature of the CISC and NSSE measures, I used an internal-consistency approach (aggregated subscales) to create parcels for the class-identity and engagement latent constructs (Kishton & Whidaman, 1994). The use of parceling is justifiable because the goal of Study 2 is not measurement development (Bandalos & Finney, 2001).

Furthermore, using individual items as indicators rather than using parceling could have led to a large number of indicators since I was using multiple-item scales. Defining latent constructs based on multiple Likert-type items can also reduce model parsimony, increase the problem of non-normality, generate spurious correlations among error terms, and result in lower communalities.

With regard to the the skewed variables reported earlier, I compared models that used the transformed variables with models that used untransformed variables and found no differences in the results. Therefore, I report all models based on untransformed variables to avoid the difficulties associated with interpreting the magnitudes of transformed variables.

### *Preliminary Analyses*

Before turning to the results of testing the CISC measurement model and the overall structural models, I report preliminary analyses conducted as part of Study 2. These include tests of socially desirable responding and tests of the CISC scale's discriminant and convergent validity.

#### *Social Desirability*

As in Study 1, the correlation between overall scores on the CISC scale and the Balanced Inventory of Desirable Responding (BIDR; Paulhus, 1991) in Study 2 was not significant. Correlations between socially desirable responding and two of the CISC factors were significant, ranging from -.10 (Mutual Fate) to -.11 (Salience and Importance), but correlations of this magnitude do not warrant statistically controlling for social desirability in further analyses (see Leite & Beretvas, 2005). As in Study 1, BIDR

scores were not significantly correlated with high school average, parental occupation or parental education, or the dependent measure, university GPA.

### *Discriminant Validity*

The Social Attitudes Survey is a 19-item ad hoc test of meritocratic beliefs. The scale again demonstrated acceptable internal consistency (Cronbach's  $\alpha = .78$ ). As in Study 1, scores on this scale were not significantly correlated with class identity scores, providing support for the discriminant validity of the CISC scale.

In contrast to results from Study 1, meritocracy scores were significantly higher for middle-class ( $M = 4.23$ ) than for working-class ( $M = 4.12$ ) participants ( $F[1,452] = 3.92, p < .05$ ), and there was a significant correlation between meritocratic beliefs and overall SES as measured by the Family Background Index ( $r = .13, p < .01$ ). The only SES component that was significantly correlated with meritocratic beliefs was mother's education ( $r = .14, p < .01$ ).

### *Convergent Validity*

The Inclusion of Ingroup in the Self (Tropp & Wright, 2001) is a single-item graphical test of the degree to which individuals see a given social category as part of their self system. As in Study 1, participants' scores ( $M = 4.30$ ) were significantly correlated with class identity scores ( $M = 4.11; r = .54, p < .01$ ). This provides evidence that the revised CISC scale has good convergent validity with a measure that taps overall level of identification with the ingroup.

*Confirmatory Factor Analysis of the Collective Identity of Social Class Scale*

I conducted a confirmatory factor analysis of the CISC scale to test the four-factor solution obtained in Study 1. I also compared this model with a one-factor solution. My initial inspection of the fit indices showed that the overall fit of the one-factor CISC measurement model (Figure 2) was not acceptable,  $\chi^2(170) = 2051.26, p = .000, GFI = .66, CFI = .49, SRMR = .12, RMSEA = .16$ . However, the overall fit of the four-factor CISC model (Figure 3) was noticeably better than the overall fit of the one-factor model,  $\chi^2(164) = 896.33, p = .000, GFI = .83, CFI = .80, SRMR = .07, RMSEA = .10$ .

Figure 2. One-factor CISC Measurement Model

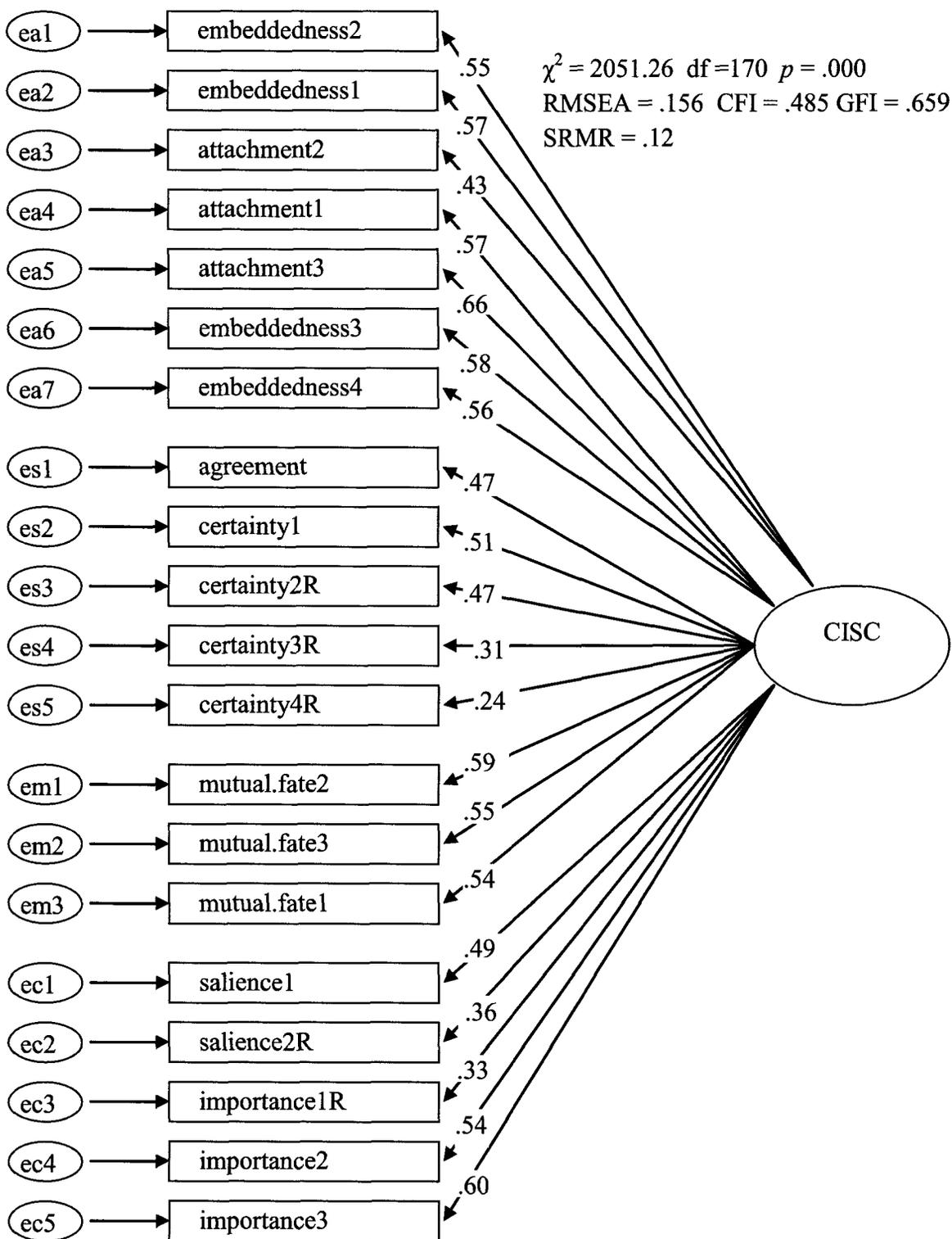
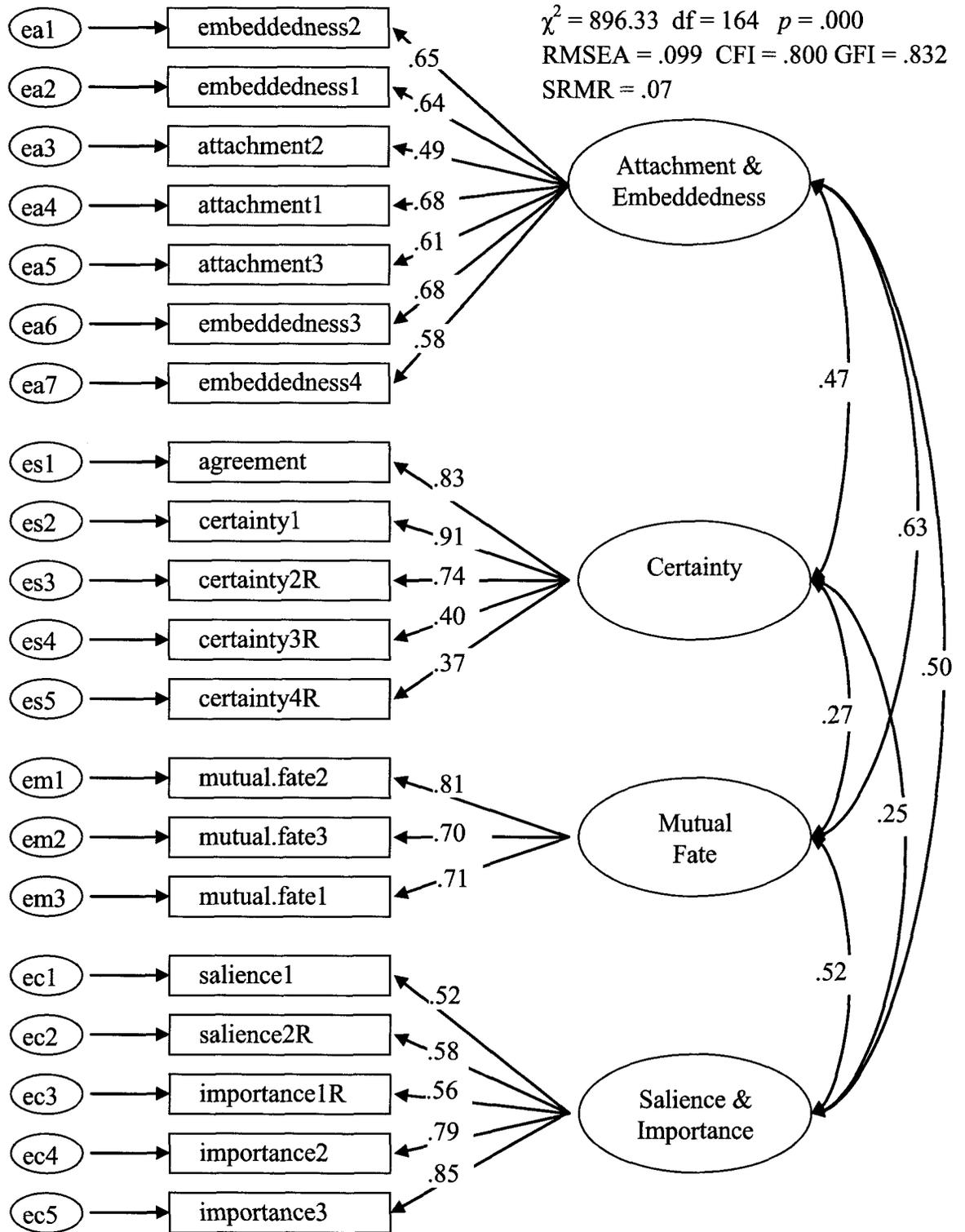


Figure 3. Four-factor CISC Measurement Model



Before checking the modification indices to identify possible misspecification of the model and to enhance the fit of the four-factor model, I examined the factor loadings. All of the CISC items loaded .45 or higher on their factors with the exception of two items from the self-categorization factor (see Figure 3). Because these two items measured the same concept of certainty that is captured by four of that subscale's items, it was not theoretically problematic to eliminate them. Furthermore, eliminating the items did not result in any significant reduction in the subscale's internal consistency from that obtained in Study 1 (more than .80 in both studies). After eliminating the problematic items, the model fit was enhanced but was still not in the acceptable range.

I identified large modification indices related to three correlations between error terms. Specifically, there were correlations between the error terms for the pair of items that measure salience and for two pairs of items that measure embeddedness. These correlated errors suggest that the associated items measure something other than the latent construct in the model. Close examination of the items suggested possible explanations.

Both of the salience items refer to "the fact that I am a \_\_\_\_-class person." For participants who had doubts about their class placement, this phrasing may have influenced how they answered. One pair of embeddedness items referred to "most of the people in my life" and "most of the important relationships in my life" being in the same class. The identical wording ("most of the . . . . in my life") may have been ambiguous for some respondents.

The other two embeddedness items whose error terms were correlated referred to thinking of one's class as "we," not "they," and to things said about class members

feeling “almost as if they had said it about me.” It is possible that a desire to be consistent could have affected responses to these adjacent items. That is, if ones agrees that one thinks “we” when thinking about one’s class, then one should also agree that when someone says something about one’s class “it’s almost as if they said it about me.”

After including correlations between the error terms in the model, I examined how the modified model fit the data (see Figure 4). Since Mardia’s index of multivariate normality was significant (Mardia’s index = 77.52,  $z$ -score = 30.78), I used the bootstrapping method to calculate Bollen-Stine chi-square and factor loadings. The regular chi-square was 328.91 ( $p = .00$ ). The mean chi-square from 2000 bootstrap samples was 152.97 (Bollen-Stine bootstrap  $p = .001$ ). Other fit indices that are less sensitive to large sample size demonstrated that the overall fit of the respecified CISC measurement model was acceptable (CFI = .94, GFI .93, SRMR = .06, RMSEA = .06 (.05 - .07)).

Recall that participants also responded to additional measures of public and private regard. Although the exploratory factor analysis in Study 1 indicated that these variables were not part of the class-identity construct, I tested a version of the CISC measurement model that included them. The factor loadings for these variables were not in the acceptable range (-.08 for private regard and .32 for public regard), confirming that public and private regard constructs are not part of class identity. Therefore, the four-factor structure indicated in Figure 4 represents the final version of the CISC measure.

Table 5 presents the unstandardized estimates, standard errors, standardized estimates and bootstrap  $p$  values for the standardized estimates related to each factor loading. All standardized estimates were significant, ranging from .44 to .94 ( $p < .01$ ).

Figure 4. Four-factor CISC Measurement Model after Modification

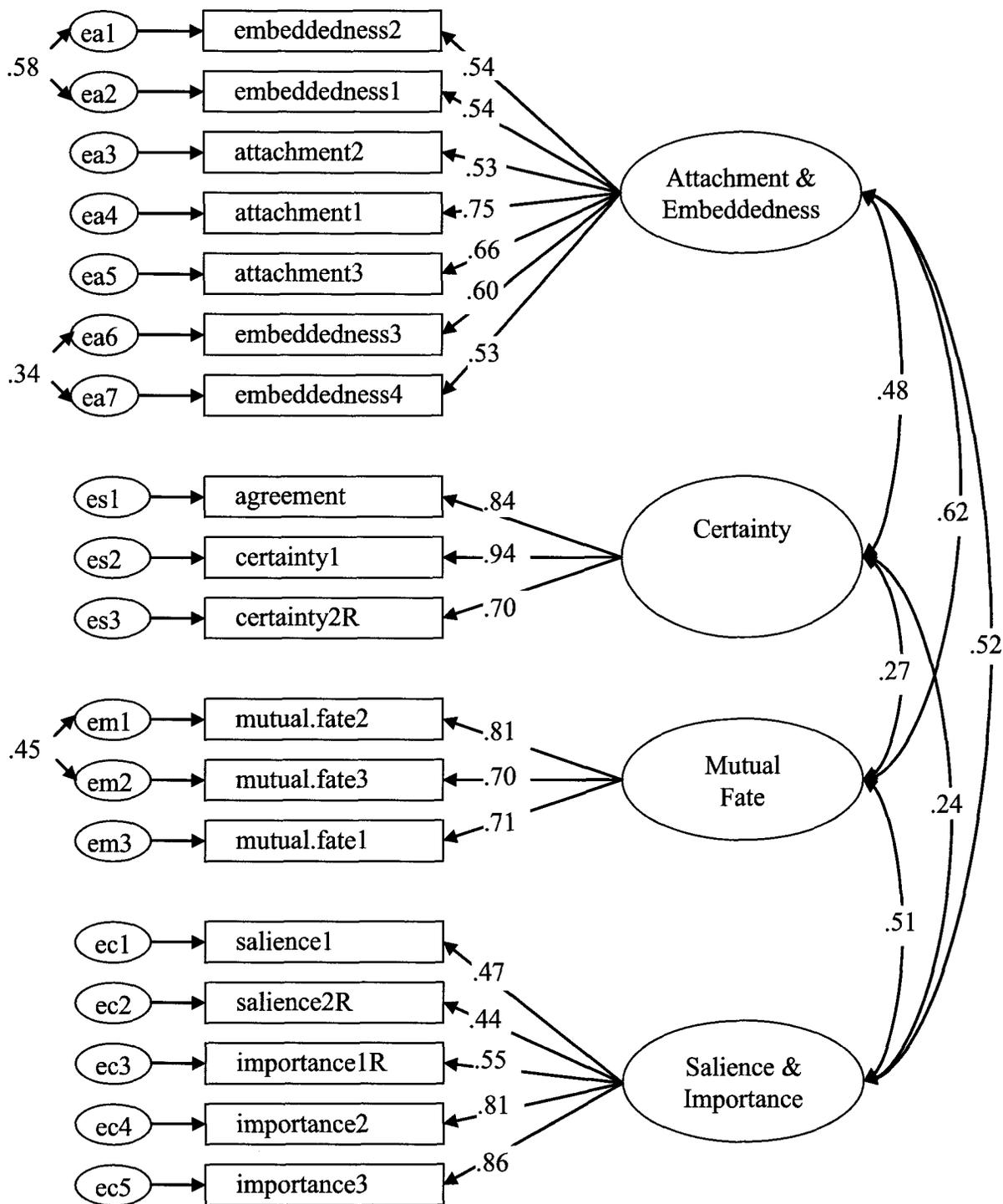


Table 5. Parameter Estimates of Factor Loadings in Modified Four-factor CISC Model

	B	se	$\beta$	<i>p</i>	B Working Class	B Middle Class
<u>Attachment</u>						
<u>&amp; Embeddedness</u>						
SIS.26	.91	.11	.54	.001	1.29	.79
SIS.25	.90	.10	.54	.001	1.21	.76
SIS.20	.62	.07	.53	.001	.62	.73
SIS.19	1.00	.00	.75	.002	1.00	1.00
SIS.21	.89	.07	.66	.001	.53	.98
SIS.27	.94	.09	.60	.002	1.47	.91
SIS.28	.91	.10	.53	.001	1.44	.90
<u>Certainty</u>						
SIS.1	1.00	.00	.84	.001	1.00	1.00
SIS.2	1.09	.05	.94	.002	.98	1.16
SIS.3R	1.00	.08	.70	.001	.86	1.16
<u>Mutual Fate</u>						
SIS.23	1.18	.09	.81	.002	1.29	1.14
SIS.24	1.00	.00	.70	.001	1.00	1.00
SIS.22	1.18	.10	.71	.001	1.34	1.09
<u>Saliency &amp; Importance</u>						
SIS.6	.93	.13	.47	.001	2.23	.73
SIS.7R	.85	.10	.44	.001	2.36	.69
SIS.8R	1.00	.00	.55	.001	1.00	1.00
SIS.9	1.55	.15	.81	.001	3.97	1.29
SIS.10	1.62	.17	.86	.001	4.63	1.24

*Note.* B = unstandardized estimate; se = standard error of estimate;  $\beta$  = standardized estimate; *p* = bootstrap *p* value

The correlations among CISC factors were all significant, ranging from .27 to .62. The highest correlations were between *Mutual Fate* and *Attachment and Embeddedness* ( $r = .62$ ), between *Mutual Fate* and *Salience and Importance* ( $r = .51$ ) and between *Attachment and Embeddedness* and *Salience and Importance* ( $r = .52$ ). The lowest correlations were between *Certainty* and *Salience and Importance* ( $r = .24$ ) and between *Certainty* and *Mutual Fate* ( $r = .27$ ). The three correlations between the error terms that I specified in the modified CISC model were all significant ( $p = .001$ ).

#### *Descriptive Statistics, Scale Reliabilities and Group Differences*

With the CISC measurement model tested and modified, I then analyzed the descriptive statistics and reliabilities for Study 2, as well as testing mean differences across relevant groups. Table 6 lists the means and standard deviations of all variables in the study as well as the scale and subscale reliabilities. The mean score on overall collective identity of social class was moderate. Of the four CISC factors, the highest mean score was for Certainty and the lowest mean score was for Salience and Importance. Average scores on Academic Self-Concept were moderate. Overall student engagement (NSSE) scores were moderate, with moderately high average scores on Supportive Campus Environment and low average scores on Student-Faculty Interaction.

The internal consistency of the scales and subscales was acceptable overall, with internal consistency statistics ranging from .61 to .93. Subscales with lower internal consistency included the measures of parental education and occupation, but with only two items per scale, this is to be expected (Peterson, 1994). Three of the NSSE subscales had internal consistency statistics below .70, but were similar to the pattern of internal

consistency reported by Kuh and colleagues (2006). Internal consistency of the subscales measuring the four CISC factors was acceptable, ranging from .78 to .81.

I analyzed differences on key variables across sex, nationality, and social class. A one-way ANOVA showed that men ( $M = 6.64$ ) had lower average GPA than women ( $M = 7.28$ ;  $F[1,452] = 7.96, p < .01$ ). Men reported significantly higher parental education and occupation levels, culminating in higher average SES for men ( $M = 51.47$ ) than for women ( $M = 47.72$ ;  $F[1,452] = 7.42, p < .01$ ).

A one-way ANOVA comparing Canadians and non-Canadians revealed that Canadians had significantly higher GPA than non-Canadians ( $M = 7.19$  versus  $6.38$ ;  $F[1,452] = 6.77, p < .05$ ). Non-Canadians reported significantly higher parental occupation and education, culminating in higher overall SES scores for non-Canadians ( $M = 55.98$ ) than for Canadians ( $M = 47.89$ ;  $t[1,110.28; \text{equal variances not assumed}] = -5.29, p < .001$ ). Non-Canadians and Canadians did not differ on level of class identity.

I conducted a one-way analysis of variance (ANOVA) to explore class differences on the CISC scale and its four factors, as well as public and private regard. Middle-class participants ( $n = 337$ ) had significantly higher scores on overall class identity ( $M = 4.25$ ) than working-class participants ( $n = 117, M = 3.72$ ),  $F(1,452) = 30.91, p < .001$ . Middle-class participants scored significantly higher on three of the four CISC factors: (1) Attachment and Embeddedness ( $M = 4.68$  versus  $4.18$ ),  $F(1,452) = 20.08, p < .001$ ; (2) Certainty ( $M = 5.35$  versus  $4.38$ ),  $F(1,452) = 49.06, p < .001$ ; and (3) Mutual Fate ( $M = 4.01$  versus  $3.18$ ),  $F(1,452) = 31.04, p < .001$ . Mean scores on Salience and Importance did not differ significantly between middle-class ( $M = 3.12$ ) and working-class ( $M =$

3.02) participants. Overall, it appears that middle-class participants identified more strongly with their social class than did working-class participants.

Private regard was significantly higher among working-class ( $M = 5.99$ ) than among middle-class ( $M = 5.73$ ) participants. In contrast, public regard was significantly higher among middle-class participants ( $M = 5.51$ ) than among working-class participants ( $M = 4.34$ ,  $F[1,432] = 115.88$ ,  $p < .001$ ). Analysis of variance revealed no significant differences between working- and middle-class participants on engagement, academic self-concept, high school average or GPA.

Table 6. Means, Standard Deviations and Internal Consistency

Scale or subscale	Items	Mean	Std. dev.	Cronbach's $\alpha$
High School Average (%)	1	79.72	7.21	
Parental Education <sup>a</sup>	2	17.58	4.96	.68
Parental Occupation <sup>b</sup>	2	31.60	10.29	.68
Attachment and Embeddedness <sup>c</sup>	7	4.55	1.05	.81
Certainty of Self-categorization <sup>c</sup>	5	5.16	1.19	.81
Certainty of Self-categorization (modified) <sup>c</sup>	3	5.10	1.37	.85
Saliency and Importance <sup>c</sup>	5	3.10	1.28	.79
Mutual Fate <sup>c</sup>	3	3.80	1.43	.78
Collective Identity of Social Class <sup>c</sup>	18	4.11	0.86	.87
Private Regard <sup>c</sup>	5	5.80	0.88	.70
Public Regard <sup>c</sup>	3	5.21	1.13	.77
Academic Self-Concept <sup>d</sup>	40	5.13	0.90	.93
Academic Challenge <sup>e</sup>	11	5.23	1.38	.72
Active and Collaborative Learning <sup>e</sup>	7	4.64	1.74	.68
Student-Faculty Interaction <sup>e</sup>	6	3.05	1.98	.75
Enriching Educational Experiences <sup>e</sup>	12	4.59	1.34	.61
Supportive Campus Environment <sup>e</sup>	5	6.49	1.64	.66
University GPA <sup>f</sup>	1	7.05	2.33	

<sup>a</sup> The Parental Education scale had a range of 3 (less than 7<sup>th</sup> grade) to 27 (completed a doctorate or professional degree).

<sup>b</sup> The Parental Occupation scale had a range of 5 (lowest status) to 45 (highest status).

<sup>c</sup> The scale is 1-7.

<sup>d</sup> The scale is 1-8.

<sup>e</sup> The scale is 1-10.

<sup>f</sup> The scale is 0 (F) to 12 (A+).

*Correlations*

Table 7 presents the bivariate correlation matrix of the scales and subscales used in the study, after the substitution of missing data. University grade point average (GPA) was most highly correlated with high school average and academic self-concept. GPA was also significantly correlated with two of the class-identity factors, Mutual Fate and Attachment and Embeddedness, as well as with the engagement factors Academic Challenge and Active and Collaborative Learning, and consequently with overall engagement. GPA notably did not correlate with parental education or occupation.

Unlike university GPA, high school average was significantly correlated with parental education and occupation. Further analysis revealed that only mother's education ( $r = .19, p < .01$ ) and mother's occupation ( $r = .13, p < .01$ ) were significantly correlated with high school average. In addition, high school average was significantly correlated with one class identity factor, Mutual Fate, and one engagement factor, Enriching Educational Experiences.

Academic Self-concept was significantly correlated only with high school average, university GPA, and all of the engagement factors. It was notably not significantly correlated with either of the SES indicators (parental education and occupation), nor with any of the class-identity factors.

As expected, parental education and occupation were highly intercorrelated. Both were significantly correlated with three class identity factors (Attachment and Embeddedness, Certainty and Mutual Fate) and with one engagement factor (Student-faculty Interaction). Parental occupation, but not education, was significantly associated with Enriching Educational Experiences.

Two of the CISC factors, Salience and Importance and Mutual Fate, were significantly correlated with three engagement factors (Active and Collaborative Learning, Student-faculty Interaction and Enriching Educational Experiences). The other two CISC factors, Attachment and Embeddedness and Certainty, were not significantly correlated with engagement.

I computed an overall CISC scale score for exploratory purposes. Overall CISC was significantly correlated with GPA, parental education and occupation, Active and Collaborative Learning, and Enriching Educational Experiences. It was not significantly correlated with academic-self concept. CISC scores were also significantly correlated with public and private regard.

Table 7. Bivariate Correlations of Scales and Subscales with Missing Values Substituted

Scale	GPA	HSAVG	PED	POC	ATT	CER	SAL	MUT	CISC
GPA	--								
HSAVG	.38 <sup>a</sup>	--							
PED	-.01	.11 <sup>b</sup>	--						
POC	-.05	.11 <sup>b</sup>	.64 <sup>a</sup>	--					
ATT	.10 <sup>b</sup>	.02	.16 <sup>a</sup>	.13 <sup>a</sup>	--				
CER	-.01	.05	.18 <sup>a</sup>	.24 <sup>a</sup>	.39 <sup>a</sup>	--			
SAL	.04	.00	.02	-.03	.39 <sup>a</sup>	.22 <sup>a</sup>	--		
MUT	.16 <sup>a</sup>	.12 <sup>a</sup>	.24 <sup>a</sup>	.21 <sup>a</sup>	.51 <sup>a</sup>	.22 <sup>a</sup>	.43 <sup>a</sup>	--	
CISC	.10 <sup>b</sup>	.07	.19 <sup>a</sup>	.16 <sup>a</sup>	.84 <sup>a</sup>	.57 <sup>a</sup>	.74 <sup>a</sup>	.72 <sup>a</sup>	--
PUB	.06	.02	.35 <sup>a</sup>	.45 <sup>a</sup>	.27 <sup>a</sup>	.25 <sup>a</sup>	-.07	.18 <sup>a</sup>	.40 <sup>a</sup>
PRI	-.06	.12 <sup>a</sup>	-.07	.08	.01	.02	-.24 <sup>a</sup>	-.11 <sup>b</sup>	.18 <sup>a</sup>
AC	.18 <sup>a</sup>	.05	.01	.00	.02	.00	.05	-.01	.03
ACL	.13 <sup>a</sup>	.05	.09	.09	.07	.09	.11 <sup>b</sup>	.13 <sup>a</sup>	.13 <sup>a</sup>
SFI	.03	.04	.12 <sup>a</sup>	.11 <sup>b</sup>	.03	.00	.12 <sup>a</sup>	.10 <sup>b</sup>	.09
EEE	.01	.15 <sup>a</sup>	.07	.12 <sup>a</sup>	.05	.05	.11 <sup>b</sup>	.15 <sup>a</sup>	.12 <sup>a</sup>
SCE	.02	.02	.07	.06	.09	.00	.06	.03	.07
NSSE	.10 <sup>b</sup>	.07	.10 <sup>b</sup>	.10 <sup>b</sup>	.07	.06	.12 <sup>a</sup>	.10 <sup>b</sup>	.12 <sup>a</sup>
ASC	.38 <sup>a</sup>	.17 <sup>a</sup>	.02	.01	.07	.09	.00	.02	.06

GPA = Grade Point Average; HSAVG = High School Average; PED = Parental Education; POC = Parental Occupation; ATT = Attachment and Embeddedness; CER = Certainty; SAL = Salience and Importance; MUT = Mutual Fate; CISC = Collective Identity of Social Class; PUB = Public Regard; PRI = Private Regard; AC = Academic Challenge; ACL = Active and Collaborative Learning; SFI = Student-Faculty Interaction; EEE = Enriching Educational Experiences; SCE = Supportive Campus; NSSE = National Survey of Student Engagement; ASC = Academic Self-concept

<sup>a</sup>  $p < .01$ , <sup>b</sup>  $p < .05$

*table continues*

Table 7. continued

Scale	PUB	PRI	AC	ACL	SFI	EEE	SCE	NSSE	ASC
PUB	--								
PRI	.06	--							
AC	.07	.11 <sup>b</sup>	--						
ACL	.04	.05	.53 <sup>a</sup>	--					
SFI	-.01	-.03	.42 <sup>a</sup>	.58 <sup>a</sup>	--				
EEE	.07	.12 <sup>a</sup>	.41 <sup>a</sup>	.52 <sup>a</sup>	.45 <sup>a</sup>	--			
SCE	.13 <sup>a</sup>	.12 <sup>a</sup>	.26 <sup>a</sup>	.30 <sup>a</sup>	.33 <sup>a</sup>	.28 <sup>a</sup>	--		
NSSE	.07	.10 <sup>b</sup>	.74 <sup>a</sup>	.76 <sup>a</sup>	.72 <sup>a</sup>	.73 <sup>a</sup>	.55 <sup>a</sup>	--	
ASC	.16 <sup>a</sup>	.19 <sup>a</sup>	.28 <sup>a</sup>	.29 <sup>a</sup>	.16 <sup>a</sup>	.16 <sup>a</sup>	.21 <sup>a</sup>	.31 <sup>a</sup>	--

PUB = Public Regard; PRI = Private Regard; AC = Academic Challenge; ACL = Active and Collaborative Learning; SFI = Student-Faculty Interaction; EEE = Enriching Educational Experiences; SCE = Supportive Campus; NSSE = National Survey of Student Engagement; ASC = Academic Self-concept.

<sup>a</sup>  $p < .01$  <sup>b</sup>  $p < .05$

### *Testing the Hypothesized Model*

I used a two-step approach to test the hypothesized structural model. In the first step, I tested the measurement model, in which unmeasured covariance between each pair of latent constructs is included. After establishing the measurement model's fit to the data, I tested the structural model. The results of model testing are displayed in Figure 5.

### *Testing the Measurement Model*

The first step in structural equation modelling often involves testing the measurement model. The measurement model refers to the set of observed or "measured" variables which

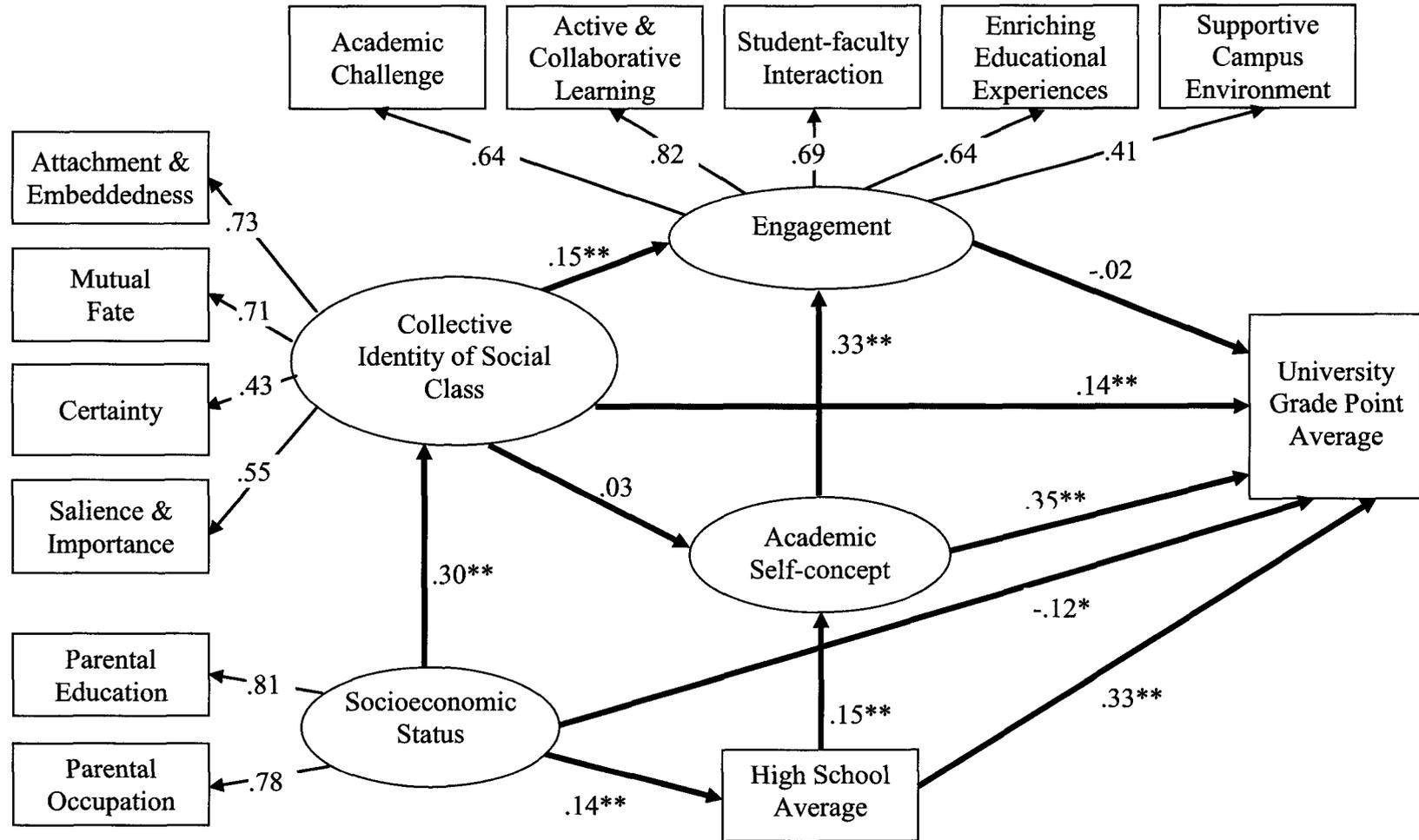
are used as indicators of the smaller set of latent constructs (McDonald & Ho, 2002).

Confirmatory factor analysis is used to verify that the measured variables do actually define the latent constructs of interest, as described by their factor loadings (Garson, 2006). Note that this is in addition to the confirmatory factor analysis that I reported earlier, which I conducted only on the CISC scale.

Thus, the first stage of testing the hypothesized structural equation model consisted of testing the measurement model for the whole hypothesized model (pure measurement model). Before testing this model, I checked multivariate outliers and multivariate normality and identified ten cases with significant Mahalanobis distance scores ( $p < .01$ ). Because multivariate outliers negatively affect multivariate normality and because the number of multivariate outliers was not large relative to the sample size, I decided to eliminate these ten cases in order to reach multivariate normality.

After I eliminated the ten cases, Mardia's index of multivariate normality was still significant but the z-score was not greater than 10, indicating that the non-normality was moderate. I tested the measurement model using the maximum-likelihood method on the reduced data set ( $n = 444$ ), as well as bootstrapped estimates using the whole sample ( $n = 454$ ). Using maximum-likelihood estimation, the chi-square estimate of model fit was significant, but the other fit indices demonstrated an acceptable fit of the model ( $\chi^2 = 196.97$ ,  $df = 80$ ,  $p = .00$ ,  $RMSEA = .06$  (.05 - .07),  $CFI = .95$ ,  $GFI = .95$ ,  $SRMR = .05$ ). Using bootstrapping, the mean chi-square from 2000 bootstrap samples was 83.38 and the Bollen-Stine bootstrap  $p$  was .001 in the whole data set. Other than chi square, all of the fit indices were identical in the whole sample and in the reduced sample ( $RMSEA = .06$  [.05 - .07],  $CFI = .95$ ,  $GFI = .95$ ,  $SRMR = .05$ ).

Figure 5. Hypothetical Model in Whole Sample, Standardized Estimates



Notes. For simplicity, error terms related to indicator variables and disturbances related to endogenous variables are not shown. Academic self-concept parcels are not shown. The factor loadings were .94 for parcel 1 and 1.00 for parcel 2.

\* $p < .05$  \*\* $p < .01$

*Testing the Structural Model*

Before testing the hypothesized structural model, I checked the assumption of multivariate normality. Mardia's index of multivariate kurtosis indicated moderate non-normality in the reduced sample. Therefore, I decided to report both regular estimates for the reduced sample ( $n = 444$ ) and bootstrapped estimates for the original sample ( $n = 454$ ; see Table 8). Analysis of the model in the original sample yielded an admissible solution and selected indices demonstrated an acceptable model fit,  $\chi^2(81) = 193.41, p = .000$ , CFI = .95, GFI = .95, SRMR = .05, RMSEA = .06 (.05 to .07). The mean bootstrap chi square was 87.10, with a Bollen-Stine bootstrap  $p$  value of .001. There were no unused bootstrap samples among 1000 bootstraps used to calculate bootstrap results.

The modification indices were all small ( $< 20$ ) and indicated no statistically or theoretically justifiable changes to the model. Table 8 contains maximum-likelihood and bootstrapped unstandardized regression weights, standard errors of estimation as well as standardized estimates and  $p$  values for all direct effects and indirect effects in the model. Table 9 lists these same estimates for all factor loadings. All of the factor loadings were significant and the magnitude of standardized estimates ranged from .41 to .999. Most of the factor loadings were more than .60. As Tables 8 and 9 demonstrate, the discrepancy between bootstrapped and maximum-likelihood estimates was very small, demonstrating the stability of the maximum-likelihood estimates. I also calculated parameter estimates and their standard errors using two other estimation methods, applied least-squares estimation and bootstrap generalized least-squares estimation. There was only a small discrepancy in parameter estimates and standard errors across all estimation methods.

All of the variables predicted to directly influence university GPA were significant, with the exception of engagement. As predicted, both academic self-concept and Collective Identity of Social Class significantly influenced engagement. Academic self-concept was significantly influenced by high school average, as predicted, but the predicted influence of class identity on academic self-concept was not supported. Squared multiple correlations indicate that 28% of the variance in GPA and 14% of the variance in the engagement latent construct are explained by the hypothesized model in the whole sample.

The indirect effect of SES on GPA was significant ( $p = .001$ ) and in a positive direction. The fact that engagement did not have a significant direct effect on GPA implies that the relation between SES and GPA is partially mediated by class identity and high school average. Table 8 demonstrates that SES is indirectly related to GPA through its effect on class identity and high school average.

The indirect effect of SES on engagement is also significant ( $p = .002$ ) and in a positive direction. This path is fully mediated by class identity. Although there was no direct path from SES to engagement in the model, I tried including one and the direct effect of SES on engagement was not significant. Similarly, I tested the direct effect of SES on academic self-concept and found it was not significant. As expected, the indirect effect of high school average on university GPA is positive and significant ( $p = .006$ ), and is partially mediated by academic self-concept. Finally, as expected, the indirect effect of high school average on engagement is positive and significant ( $p = .006$ ), and is fully mediated by academic self-concept.

Table 8. Unstandardized and Standardized Estimates of Direct and Indirect Effects

	Maximum-Likelihood Estimates ( <i>n</i> = 444)			Bootstrapped Estimates ( <i>n</i> = 454)		
	B	se	$\beta$	<i>p</i>	B	se
<b>Direct Effects</b>						
SES → GPA	-.03	.014	-.12	.021	-.03	.015
HSAVG → GPA	.11	.013	.33	.002	.11	.014
CISC → GPA	.46	.173	.14	.007	.46	.200
NSSE → GPA	-.06	.128	-.02	.537	-.05	.131
ASC → GPA	.04	.006	.35	.002	.04	.006
CISC → NSSE	.20	.075	.15	.005	.19	.073
ASC → NSSE	.02	.003	.33	.004	.02	.003
CISC → ASC	.83	1.393	.03	.564	.84	1.594
HSAVG → ASC	.38	.118	.15	.006	.38	.148
SES → HSAVG	.13	.048	.14	.005	.13	.051
SES → CISC	.03	.006	.30	.003	.03	.007
<b>Indirect effects</b>						
SES → ASC	.07		.03	.091		.048
SES → GPA	.03		.10	.001		.010
SES → NSSE	.01		.07	.002		.003
CISC → GPA	.02		.01	.709		.074
HSAVG → GPA	.02		.05	.006		.007
ASC → GPA	.00		-.01	.533		.002
HSAVG → NSSE	.01		.05	.006		.003

*Notes.* SES = socioeconomic status; GPA = grade-point average; HSAVG = high school average; CISC = collective identity of social class; NSSE = National Survey of Student Engagement; ASC = Academic Self-concept.

B = unstandardized estimate; se = standard error of estimate;  $\beta$  = standardized estimate; *p* = bootstrap *p* value for standardized estimate.

Table 9. Unstandardized and Standardized Estimates of Factor Loadings

	Maximum-Likelihood Estimates ( <i>n</i> = 444)			Bootstrapped Estimates ( <i>n</i> = 454)		
	B	se	$\beta$	<i>p</i>	B	se
CISC Scale						
CISC→CAT	.83	.122	.43	.003	.85	.171
CISC→MUT	1.45	.159	.71	.002	1.47	.183
CISC→ATT	1.09	.119	.73	.003	1.12	.162
CISC→SAL	1.00		.55	.002	1.00	
NSSE Scale						
NSSE→AC	1.00		.64	.003	1.00	
NSSE→ACL	1.60	.125	.82	.003	1.61	.123
NSSE→SFI	1.54	.132	.69	.002	1.55	.148
NSSE→EEE	.96	.087	.64	.002	.96	.094
NSSE→SCE	.76	.10	.41	.003	.77	.106
SES Scale						
SES→POC	1.00		.78	.002	1.00	
SES→PED	.50	.081	.81	.003	.51	.098

*Notes.* CISC = collective identity of social class; CAT = Certainty of Self-categorization; MUT = Mutual Fate; ATT = Attachment and Embeddedness; SAL = Salience and Importance; NSSE = National Survey of Student Engagement; AC = Academic Challenge; ACL = Active and Collaborative Learning; SFI = Student-faculty Interaction; EEE = Enriching Educational Experiences; SCE = Supportive Campus Environment; SES = socioeconomic status; POC = Parental Occupation; PED = Parental Education. B = unstandardized estimate; se = standard error of estimate;  $\beta$  = standardized estimate; *p* = bootstrap *p* value for standardized estimate.

*Alternative model including public and private regard.* Even though the exploratory and confirmatory factor analyses indicated that public and private regard were not part of the class-identity construct, I wanted to test the possibility that these variables had distinct influences on other latent constructs in the structural model. However, when I included public and private regard as a separate latent construct, the fit of the structural model was reduced and did not produce an admissible solution ( $\chi^2 = 426.65$ ,  $df = 110$ ,  $p = .00$ ,  $RMSEA = .08$ ,  $CFI = .88$ ,  $GFI = .90$ ). Therefore, I do not discuss private and public regard further as part of the structural equation modeling study, although I do report analyses of variance and correlational analyses of these constructs as a rudimentary investigation of their relation to other variables of interest.

*Testing the hypothetical model in working- and middle-class subsamples.* Two social class groups were established using scores on the Family Background Index, a measure of SES based on parental education and occupation. Participants with SES scores from 8 to 40 were categorized as working class and those with SES scores from 40.5 to 73 were categorized as middle class. I tested the structural model separately in both groups. Because the groups were created on the basis of SES scores, the SES latent construct is eliminated from these models.

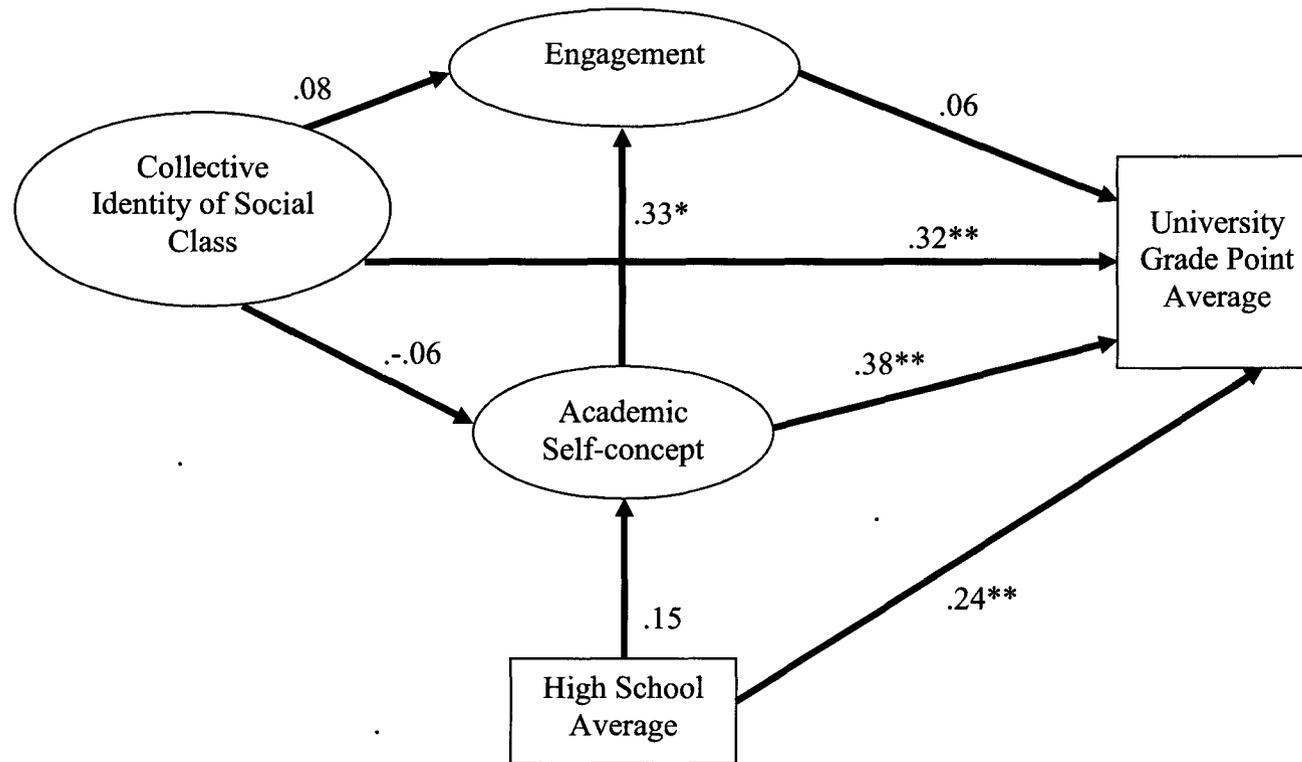
In the working class subsample, analysis of the model converged to an admissible solution and the values of selected fit indices demonstrated a reasonable overall model fit,  $\chi^2(59) = 80.49$ ,  $p = .03$ ,  $CFI = .96$ ,  $GFI = .90$ ,  $SRMR = .06$ ,  $RMSEA = .06$  (.05 to .07). Since Mardia's index implied moderate non-normality, I calculated Bollen-Stine bootstrap fit. There were no unused bootstrap samples. The mean bootstrap chi square was 66.64 and

Bollen-Stine bootstrap  $p$  was .19, indicating an excellent overall fit for the model in the working-class group.

Comparison of bootstrap parameter estimates and standard errors with maximum-likelihood estimates and standard errors shows negligible discrepancies, implying stability of the maximum-likelihood estimates. Consequently, I report only the maximum-likelihood estimates. Table 10 displays the unstandardized estimates, standard errors, standardized estimates and  $p$  values in the working class subsample.

In the working-class group, all of the variables predicted to influence university GPA were significant, with the exception of engagement. Engagement was significantly influenced by academic self-concept, as predicted. Contrary to expectations, class identity did not have a significant influence on engagement. For working-class participants, neither high school average nor class identity significantly influenced academic self-concept. None of the indirect effects were significant for the working-class subsample. Figure 6 shows the results of the model in the working-class subsample.

Figure 6. Hypothetical Model in Working-class Subsample, Standardized Estimates



*Notes.* For simplicity, indicator variables, error terms, and disturbances are not shown.

Because class groups were formed on the basis of socioeconomic status, the SES latent variable is not included in the class-specific models.

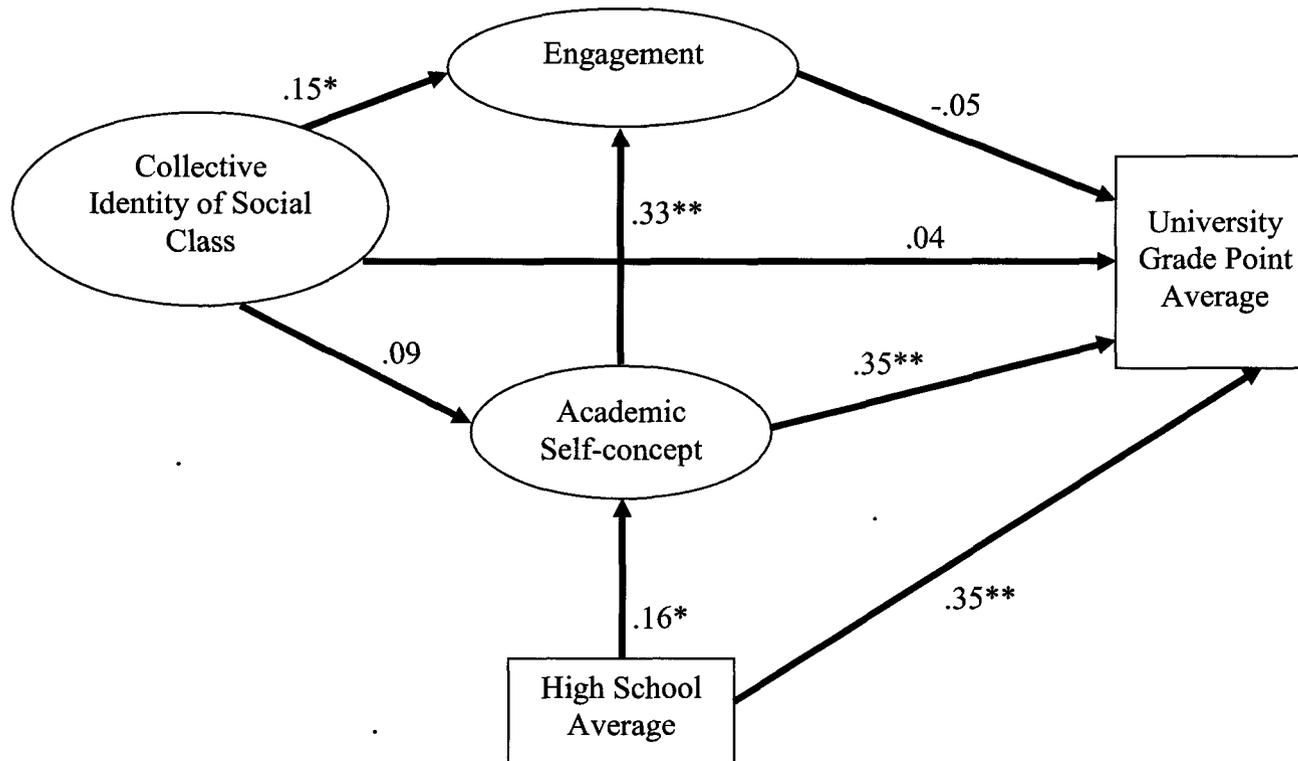
\* $p < .05$  \*\* $p < .01$

In the middle class subsample, the analysis of the model also converged to an admissible solution. Since the Mardia's index again implied moderate non-normality, I calculated Bollen-Stine bootstrap  $p$  and bootstrap estimates. There were no unused bootstrap samples. The values of selected fit indices demonstrated a reasonable overall model fit,  $\chi^2(59) = 152.41, p = .000$ , Bootstrap  $\chi^2 = 66.23$ , Bollen-Stine bootstrap  $p = .001$ , CFI = .94, GFI = .94, SRMR = .06, RMSEA = .07 (.06 - .08).

Comparison of bootstrap parameter estimates and standard errors with maximum-likelihood estimates and standard errors shows negligible discrepancies with the exception of parameter estimates related to the direct effect of class identity on academic self-concept. The bootstrap estimate of the direct effect of CISC on ASC was 2.30 and its standard error was 2.09. Since other estimates were similar, I report only the maximum-likelihood estimates. Table 10 displays the unstandardized estimates, standard errors, standardized estimates and  $p$  values in the middle-class subsample.

In the middle-class group, only two of the variables predicted to directly influence GPA were significant, high school average and academic self-concept. Both academic self-concept and class identity had significant direct effects on engagement, as expected. However, class identity did not have a significant direct effect on academic self-concept for middle-class participants. Figure 7 shows the results of the model in the middle-class subsample.

Figure 7. Hypothetical Model in Middle-class Subsample, Standardized Estimates



*Notes.* For simplicity, indicator variables, error terms, and disturbances are not shown. Because class groups were formed on the bases of socioeconomic status, the SES latent variable is not included in the class-specific models.

\* $p < .05$  \*\* $p < .01$

For middle-class participants, high school average had a significant indirect effect on both GPA and engagement. The indirect effect of high school average on GPA was mediated through academic self-concept. I added a direct path from high school average to engagement to test the mediation. This path was not significant ( $\beta = .01, p = .935$ ), indicating that the influence of high school average on engagement was fully mediated through academic self-concept.

Table 10. Direct and Indirect Effects in Working-class and Middle-class Subsamples.

Direct Effects	Working Class <i>n</i> = 117				Middle Class <i>n</i> = 337			
	B	se	$\beta$	P value	B	se	$\beta$	P value
HSAVG→GPA	.08	.028	.24	.003	.11	.015	.35	.002
CISC→GPA	.94	.295	.32	.001	.12	.168	.04	.447
NSSE→GPA	.17	.260	.06	.672	-.13	.147	-.05	.349
ASC→GPA	.05	.012	.38	.001	.04	.007	.35	.001
CISC→NSSE	.08	.123	.08	.643	.17	.080	.15	.048
ASC→NSSE	.02	.005	.33	.011	.02	.003	.33	.001
CISC→ASC	-1.21	2.310	-.06	.646	2.14	1.512	.09	.284
HSAVG→ASC	.39	.244	.15	.174	.40	.136	.16	.034

Indirect Effects	P				P			
	B	se	$\beta$	value	B	se	$\beta$	value
HSAVG→GPA	.02	.016	.06	.133	.02	.008	.05	.027
CISC→GPA	-.05	.166	-.02	.743	.07	.095	.02	.418
ASC→GPA	.00	.006	.02	.519	.00	.003	-.02	.306
HSAVG→NSSE	.01	.005	.05	.089	.01	.003	.05	.020

*Notes.* HSAVG = high school average; GPA = grade-point average; CISC = collective identity of social class; NSSE = National Survey of Student Engagement; ASC = Academic Self-concept.

B = unstandardized estimate; se = standard error of estimate;  $\beta$  = standardized estimate.

#### *Multiple-Group Analysis of the Hypothesized Model*

After ascertaining that the model was acceptable in both subsamples, I used a two-stage, multi-group analysis to test whether the hypothesized relations differed in the working- and middle-class samples. In the first stage, I specified a constrained model

where the factor loadings are equal across working- and middle-class groups to test the invariance of the factor loadings across groups. After assuring the invariance of factor loadings between groups, in the second stage, I tested whether the set of specified direct effects were statistically different across groups.

The overall fit of the unconstrained model was adequate,  $\chi^2(118) = 218.02, p = .000, CFI = .95, SRMR = .07, GFI = .93, RMSEA = .04 (.03 \text{ to } .05)$ . Adding the equality of factor loading constraint to the model did not significantly increase the chi-square fit index,  $\Delta \chi^2(8) = 13.86, p = .09$ . In other words, the result of the first stage indicates that the factor loadings did not differ across working- and middle-class groups. This provides grounds for moving to the second stage to test group differences in the direct effects. The direct-effect-constrained model was not significantly different from the unconstrained model,  $\Delta \chi^2(8) = 13.46, p = .10$ , indicating that the overall direct effects did not differ across groups. However, testing specific equality constraints of direct effects did demonstrate a significant difference in the direct effect of CISC on GPA,  $\Delta \chi^2(1) = 7.49, p = .006$ . Based on this result and the result of testing direct effects in each sample (see Table 9) it can be argued that social class moderates the relation between CISC and GPA. More specifically, increases in CISC are significantly related to increases in GPA among working-class students but not in middle-class students. The association of high school average with academic achievement is not moderated by socioeconomic status. In other words, both working- and middle-class students who earn higher average grades in high school achieve a higher GPA in university. Similarly, in both groups, increases in academic self-concept are associated with increases in GPA and engagement.

*Chapter Summary*

Study 2 had two major purposes. The first was to refine and test the CISC scale developed in Study 1 as a measure of psychological class identity. The second was to test a structural equation model that posited class identity, student engagement, academic self-concept, and high school average as mediators of the influence of socioeconomic status on university grades.

Participants responded to a battery of questionnaires measuring their demographic characteristics, socioeconomic status, socially desirable responding, meritocratic ideology, academic self-concept, and student engagement. They also responded to the revised Collective Identity of Social Class scale, and to eight items measuring public and private regard for (evaluation of) their social class.

In the first substantive analysis of Study 2, I used confirmatory factor analysis to test the CISC's factor structure. I compared the four-factor CISC model obtained in Study 1 with a one-factor CISC model. The one-factor model did not fit the data to an acceptable standard. The four-factor model fit the data noticeably better, but still fell short of acceptable standards. Based on the modification indices, and taking into account the theoretical effects of any changes, I deleted two of the scale's *certainty* items and added correlations between three pairs of error terms associated with *salience* and *embeddedness* items. With these minor modifications, the CISC's measurement model reached acceptable fit standards.

Recall that Study 1 indicated that public and private regard were not part of the class-identity construct. Because these constructs are theoretically important, I used the items again in Study 2. This enabled me to test a version of the CISC measurement model

that included these variables, but I found that their factor loadings were unacceptably low. Therefore, with minor modifications, the confirmatory factor analysis supported the four-factor solution obtained in Study 1. As in Study 1, correlations among the CISC factors in Study 2 were all positive and significant, ranging in magnitude from .26 to .62.

With the CISC's measurement model established, I conducted preliminary analyses of the CISC scale and the other measures used in Study 2. Internal consistency for all of the scales and subscales generally fell within acceptable standards. Average scores on the CISC factors resembled those in Study 1, ranging from a low of 3.10 for *Salience and Importance* to 5.10 for *Certainty of Self-categorization*.

I also tested group differences on all of the variables in the study. Middle-class participants scored significantly higher than working-class participants on overall class identity and on all of the class-identity factors except *Salience and Importance*. Relative to working-class students, middle-class students also scored higher on public regard, but working-class students scored higher on private regard. Unexpectedly, there were no significant social-class differences on high school or university grades, academic self-concept, or student engagement.

Next, I tested and reported all bivariate correlations among variables in the study. Socioeconomic variables were not significantly correlated with grade-point average or academic self-concept, though they did have small significant correlations with high school grades and student engagement. Class identity had small significant correlations with GPA and with socioeconomic variables, as well as moderate correlations with public and private regard. Academic self-concept and high school average were both moderately

correlated with GPA. Finally, academic self-concept and engagement were moderately correlated.

With these preliminary analyses completed, I turned to testing my hypothesized structural model. The first stage was to test the complete measurement model to ensure the measured variables adequately defined the four latent constructs in the model (SES, CISC, engagement, and academic self-concept). The overall measurement model fit the data to an acceptable standard.

The second stage was to test the structural model to establish the size and significance of the hypothesized relations among the latent constructs as well as high school average and GPA. I tested the structural model first for the whole sample of participants, and then separately for the working- and middle-class participants. The models fit the data to an acceptable standard in the whole sample and in the two subsamples using both maximum-likelihood and bootstrap estimation methods.

In the summary of the specific results that follows, I weave together the results of testing the model in the whole sample with the results from the working- and middle-class subsamples. However, it is important to note that the subsample models were not identical to the whole-sample model. Because I assigned participants to their working- or middle-class groups on the basis of their SES scores, I had to omit the SES latent construct from the subsample models. Consequently, I cannot report on within-class effects of SES.

This is unfortunate, because the results indicated that SES had a complex influence on GPA in the whole sample. On one hand, SES had an unexpected, albeit small, negative direct effect on GPA. On the other hand, it also had a small positive

indirect effect on GPA that was explained by its positive effects on variables that increased GPA – high school average, academic self-concept and class identity.

Therefore, it appears that the overall effect of SES on GPA is neutral, a conclusion that is consistent with the finding that parental education and occupation were not significantly correlated with GPA and the finding that working- and middle-class participants' GPA did not differ significantly. In contrast to the findings for university GPA, socioeconomic status did have a small positive effect on high school average, consistent with the literature showing a positive association between the two and with the bivariate correlations in the present study.

SES also had a moderate positive direct effect on class identity, as would be expected given that middle-class (higher-SES) participants identified more strongly with their class. In the whole sample of participants, this positive effect of SES on class identity explained the positive indirect effect of SES on engagement. In other words, the effect of SES on engagement was fully mediated by its positive effect on class identity. To be sure that this was not a spurious finding, I added path to the model representing a direct effect of SES on student engagement, but found it was not significant. It appears that SES influenced engagement only via its positive effects on class identity.

Contrary to my expectations, SES did not have a positive indirect effect on academic self-concept through either of the two proposed mediators, class identity or high school average. Because I had expected SES and academic self-concept to be related, I added a path to the model to test the direct effect of SES on academic self-concept, but found it was not significant. Therefore, for the whole sample of participants, SES had no influence on academic self-concept. This finding further supports my

conclusion that SES influences engagement only through class identity, because it demonstrates that SES could not influence engagement through academic self-concept.

Like SES, class identity did not influence academic self-concept in the whole sample of participants. Given my expectation that class identity might influence academic self-concept positively for middle-class students and negatively for working-class students, a non-significant influence across the whole sample was unsurprising. However, class identity did not significantly influence academic self-concept in either subsample, and even the bivariate associations between class identity and academic self-concept were not significant. Therefore, class identity and SES are simply unrelated to academic self-concept in the present study.

However, class identity did have small positive effects on two other academic variables, student engagement and GPA. These effects differed for working- and middle-class students. Class identity had a small positive effect on engagement for middle-class students, but no effect for working-class students. Given that there were no significant differences between working- and middle-class students on their level of engagement, this finding indicates that it is middle-class identification, rather than middle-class status per se, that increases student engagement.

Class identity had a moderate positive influence on GPA for working-class students, but no influence for middle-class students, a finding that contradicts my expectation that identifying as working class would have negative effects on academic outcomes. Moreover, because class identity did not have significant effects on academic self-concept or engagement for working-class students, its positive effect on GPA represents the only significant effect of class identity for this group.

The positive effect of class identity on working-class students' GPA was moderate in magnitude. For working-class students, the effect of class identity on GPA was slightly smaller than the effect of academic self-concept, but larger than the effect of high school average. In fact, although the effect of high school average on GPA was of virtually the same magnitude in the working- and middle-class, the effect was not even statistically significant in the working-class group, probably due to its relatively small sample size.

As already mentioned, class identity did not significantly influence middle-class students' GPA. For middle-class students, academic self-concept and high school average had moderate positive effects on GPA, and high school average had an additional indirect effect on GPA which was explained by its positive effect on academic self-concept.

In terms of the association between engagement and academic self-concept, the results supported the model's predictions. Academic self-concept had a moderate positive influence on engagement and the magnitude of this effect was identical in the whole sample and in the working- and middle-class subsamples. High school average had a significant indirect effect on engagement, which was mediated by academic self-concept. In case this finding was spurious, I tested the mediation by adding a direct path from high school average to engagement. This path was not significant, indicating that the influence of high school average on engagement was fully mediated through academic self-concept. Once again, this indirect effect of high school average did not reach significance in the smaller working-class subsample.

As a final step in testing my structural model, I conducted a multiple-group analysis to determine whether the direct effects in the working-class group were

significantly different from the direct effects in the middle-class group. I first established that the factor loadings did not vary between the two groups, which allowed me to test for statistical differences in the direct effects. The only direct effect that differed significantly between the groups was the effect of class identity on GPA. Combined with the results reported earlier, I was able to conclude that increases in class identity are significantly related to increases in GPA among working-class students but not in middle-class students.

Overall, the results of Study 2 supported both the collective identity of social class construct and its potential to mediate the effect of socioeconomic status on university achievement. The first part of the study confirmed the content and structure of the CISC scale, adding weight to the factor-analytic results of Study 1. The second part of the study provided evidence that class identity influences student engagement and academic achievement, and that these influences differ for middle- and working-class students. In addition, the results revealed that engagement did not significantly influence GPA but that academic self-concept and high school average were significant influences. In the next chapter, I discuss the results of these analyses, situating them in current theoretical and methodological debates surrounding social class, collective identity and academic achievement.

## CHAPTER 8

## DISCUSSION, IMPLICATIONS AND CONTRIBUTIONS TO THE LITERATURE

The purpose of this research was to examine the association between socioeconomic status and postsecondary achievement while taking into account the potential mediating roles of three psychological variables: academic self-concept, student engagement and class identity. Academic self-concept and student engagement are well-researched influences on academic achievement, but relatively little is known about class identity. Social class is often cited along with race and gender as an important sociocultural variable, yet social psychologists have paid little attention to class and have developed no psychological measures of class identity.

To begin to address this gap, I proposed a new construct, the collective identity of social class, and developed and tested a multidimensional measure to operationalize it in research. Using factor analytic methods across two studies, I tested and refined the scale and confirmed that its factor structure was stable across working-class and middle-class subsamples. As measured by the Collective Identity of Social Class (CISC) scale, class identity consists of four correlated factors: *Attachment and Embeddedness*, *Certainty of Self-categorization*, *Salience and Importance*, and *Mutual Fate*.

I begin this final chapter of the dissertation with a discussion of the evidence for the CISC scale's reliability and validity, with a particular emphasis on its discriminant validity. The discriminant validity of the CISC scale is of theoretical interest because some other research confounds ideological views and class identity. Using the CISC scale, I was able to show that psychological class identification is unrelated to support for the class-related ideology of meritocracy.

In comparing the CISC scale's content with other factor-analytic research on collective identities, I show that it has more in common with other measures of naturally occurring social identities than with measures of minimal-group identities. This affirms the importance of distinguishing among different types of identities in theory and measurement. At the same time, there are unique aspects of the CISC scale's content and factor structure, which I discuss in relation to other work on status-related identities.

With the construct validity of the CISC scale established, I turn my attention to its role in predicting academic success. I discuss the results of using structural equation modeling to test the influence of class identity, student engagement, and academic self-concept in mediating the association between socioeconomic status and university grades. As anticipated, class identity, academic self-concept, and high school average had a positive influence on GPA, but the predicted influence of engagement on GPA was not supported. Unexpectedly, class identity's influence on GPA was not mediated by academic self-concept or engagement. Most surprisingly, the positive influence of class identity on GPA was significant only for working-class participants.

Finally, after summarizing the findings and contributions of my research, I end with a discussion of its limitations and suggestions for future research. I argue that despite encountering the usual challenges associated with measuring socioeconomic status and class, this research contributes some much-needed theoretical development and social-psychological perspective to the issues of socioeconomic status and class identification. In addition, it provides a test of a comprehensive, multivariate model that integrates objective socioeconomic factors with three psychological constructs in predicting academic achievement.

*Creation of the Collective Identity of Social Class Scale*

Before I could examine the role of class identity in mediating the effects of SES, I had to define the construct and develop and validate an instrument to measure it. Drawing on theory and research in psychology and sociology, I developed a 36-item scale and tested it in a sample of 309 undergraduate students. An exploratory factor analysis yielded a 20-item scale with a four-factor solution. In a second sample of 454 students, a confirmatory factor analysis further refined the scale to 18 items confirmed that the four-factor solution was stable across both samples. The four Collective Identity of Social Class factors are: *Attachment and Embeddedness*, *Certainty of Self-categorization*, *Salience and Importance*, and *Mutual Fate*.

The CISC scale and each of its subscales met the standards for internal consistency as measured by Cronbach's alpha coefficient, providing evidence of the measure's reliability. Despite the potential sensitivity of questions on social class to socially desirable responding, there was very little response bias associated with social desirability, providing evidence for the scale's validity. Evidence of concurrent validity was demonstrated by moderately strong correlations between CISC scores and a single-item measure that taps overall level of identification with the ingroup (Tropp & Wright, 2001).

Evidence for the CISC scale's discriminant validity was demonstrated by the lack of a significant association between class identity scores and a measure of meritocratic ideology. The meritocracy scale assessed beliefs in the existence of equal opportunity, the notion that success comes from individual ability and effort, the justice of economic inequality, the stability of economic inequality, and the permeability of social classes to

individual mobility. In earlier research, some sociologists defined class identity as the degree of support for labour unions, capitalism, or general views related to class (see Crompton, 1993). From a psychological perspective, this approach confounds social class identification with political beliefs. Therefore, the finding that class identity and meritocratic beliefs are independent has theoretical importance.

In contrast to participants' class identification, their objective socioeconomic position was associated with their meritocratic beliefs. In Study 1, participants' support for meritocratic views increased as their fathers' job status increased. In Study 2, participants' support for meritocratic views increased as their mothers' education increased, and middle-class participants endorsed meritocratic views more strongly than working-class participants. These associations between socioeconomic status and meritocratic beliefs were relatively small in magnitude but statistically significant. Overall, participants who were more advantaged by the current class structure showed slightly more support for it.

The positive association between participants' socioeconomic position and their support for meritocratic beliefs is consistent with findings that low-income people are more likely to attribute wealth and poverty to structural rather than individual causes, and tend to see socioeconomic inequality as unjustified (Bullock, 1999a; Bullock & Limbert, 2003). However, my findings conflict with those of larger-scale studies. For example, working-class youth in capitalist societies endorse meritocratic views more strongly than middle-class youth (Flanagan & Campbell, 2003), and low-income Americans believe more strongly in the fairness and necessity of economic inequality than high-income Americans (Jost et al., 2003).

Further research is needed to clarify the association between SES/class and meritocratic beliefs. It is important to note that average meritocracy scores in my study were only slightly above neutral for both working- and middle-class respondents, indicating that participants overall demonstrated a degree of scepticism about meritocracy. However, the more important point for the present study is that meritocratic beliefs were not associated with strength of class identity, supporting the notion that ideology and identification are unrelated.

#### *The Collective Identity of Social Class Factor Structure*

With the CISC scale's construct validity established, I turn now to discussing the factor structure of the collective identity of social class. One advantage of the CISC scale is its grounding in social identity theory (Brown, 2000; Huddy, 2001) and self categorization theory (Turner, 1999). As the first multidimensional measure of psychological class identification, the CISC scale draws on an abundant research literature that has identified with some consistency the various dimensions involved in identifying with a social group.

A comprehensive review and theoretical synthesis of this literature by Ashmore, Deaux, and McLaughlin-Volpe (2004) was particularly helpful in guiding my selection and adaptation of items. My original CISC scale measured aspects of five of the seven elements of collective identification they proposed: (1) self-categorization, (2) evaluation, (3) importance, (4) attachment and sense of interdependence, and (5) social embeddedness. Following an exploratory factor analysis in Study 1 and a confirmatory factor analysis in Study 2, the revised CISC scale consists of four factors that represent

aspects of all but the evaluation element: *Attachment and Embeddedness*, *Certainty of Self-categorization*, *Saliency and Importance*, and *Mutual Fate*.

Overall, the content of the four CISC factors had more in common with factors obtained in research on natural group memberships than with factors obtained in laboratory-based, minimal-group studies. For example, in his analysis of natural group memberships, Jackson (2002) identified three common factors — evaluation, self-categorization, and perceived solidarity and common fate — whose content overlaps to a considerable degree with the CISC scale's *Certainty* and *Mutual Fate* factors. Cameron's (2004) studies on gender identity, nationality and university identity found that the factors centrality, ingroup affect, and ingroup ties best represented these identities. Cameron's centrality factor is quite similar to *Saliency and Importance*, and his ingroup affect and ingroup ties factors share content with *Attachment and Embeddedness*. In contrast, an analysis of minimal-group studies by Ellemers and colleagues (1999, cited in Cameron, 2004) found that self-categorization, evaluation, and commitment were the key underlying factors. In this case, the only overlap with the CISC scale is one part of their self-categorization factor.

The distinction between factor structures in minimal groups versus natural groups is an important one. Social identity research has been criticized for treating all social groups as theoretically equivalent (e.g., see Thoits & Virshup, 1997). Among others, Deaux (1993; 1995) has argued for a multidimensional conception of social identity that takes the type of social group into account. She has argued, for example, that identities based on ascribed social categories, such as class, may differ from other types of identities. Cameron (2004) and Obst and White (2005) found support for a

multidimensional identity structure with different patterns of means and correlations between subscales depending on the specific type of natural group identity. The development of the CISC scale to measure social class identity contributes to the larger project of theorizing and measuring different types of group identities.

### *Description of the CISC Factors*

Factor 1 of the CISC scale, *Attachment and Embeddedness*, focuses on feelings about one's class and about belonging to it, as well as the extent to which one's social networks are dominated by same-class others. This factor combines aspects of attachment and social embeddedness as defined by Ashmore and colleagues (2004). Attachment refers to the emotional significance associated with one's membership in a given group, the degree to which it constitutes "a basis for affective bonds and interpretations of social life" (Jackman & Jackman, 1983, p. 42). Social embeddedness refers to the degree to which important and/or numerous interpersonal relationships are dependent on being a group member.

Average scores on *Attachment and Embeddedness* were above the scale midpoint of 4.0, indicating slight agreement with the construct being measured. Of the four factors, *Attachment and Embeddedness* had the second highest mean factor scores at 4.47. The highest-loading items on this scale were "In general, I feel close to the working class" and "Generally, I feel good when I think about belonging to the working class." Therefore, the items in this factor are a good reflection of the idea that attachment to one's class involves positive feelings about the class and about belonging to it.

Factor 2, *Certainty of Self-categorization*, measures participants' certainty about belonging to their objective social class and agreement that their class was correctly identified by the SES measure. This factor represents one component of Ashmore and colleagues' (2004) self-categorization element, perceived certainty of self-categorization.

Average scores on *Certainty of Self-categorization* were above the scale midpoint, indicating slight agreement with the construct being measured. Of the four factors, *Certainty* had the highest mean at 5.10. The highest-loading items were "According to the Student Information Survey you completed, social scientists would say that you are from a working-class background. Do you agree that this is the social class you belong to?" and "On the Student Information Survey, you provided information about your family background that suggests you are a working-class person. How certain do you feel that this label accurately categorized you?" Therefore, the items in this factor reflect the degree of certainty that participants feel in relation to the class label they were assigned based on their parental education and occupation scores.

Other identity researchers have seldom measured participants' certainty about being a member of their objective social class. Indeed, social-identity researchers typically infer self-categorization from participants' behaviour (e.g., ingroup favouritism) or attitudes (e.g., prejudice) rather than directly measuring it. This is because social identity theory and self categorization theory assume that self-categorization into groups is a straightforward and automatic cognitive process, a precondition for social identification rather than an aspect of its structure (Ashmore et al., 2004). Minimal-group studies support this assumption, but critics have argued that self-categorization outside the laboratory is more complex and should be measured (e.g., Huddy, 2001). Social

identity researchers have measured other aspects of self-categorization, including the placement of self in a social category (e.g., Phinney, 1992) and identity confusion (Mohr & Fassinger, 2000). In addition, researchers studying social class have measured the accuracy of participants' subjective class placement (e.g., Ekehammar et al., 1988).

The present study took a different approach by directly measuring the strength of participants' self-categorization after establishing their objective social class. The fact that participants' average scores on certainty of self-categorization did not indicate a very high degree of certainty about their class membership was not surprising. Social classes are seldom openly discussed, and the boundaries between classes are ill-defined and permeable. Moreover, lay people tend to use different criteria than researchers when trying to determine their own and others' social class (see Argyle, 1994).

These reasons also help to explain why the factor analysis did not support Ashmore and colleagues' (2004) similarity-to-group-prototype component of self-categorization. Three items measuring similarity items were not retained as part of the CISC scale due to low inter-item and item-scale correlations. Lay people's conception of social classes may be too varied or indistinct to form clear prototypes, making it difficult to measure perceived fit or similarity to the category in question.

Factor 3, *Saliency and Importance*, measures how often participants think about their social class and how significant it is to their overall sense of self. This factor is similar to Cameron's (2004) centrality factor, which comprises both the cognitive accessibility of a collective identity (how often it comes to mind) and its subjective importance for the self. The CISC scale's importance items map onto Ashmore and colleagues' (2004) explicit importance element, defined as the "subjective appraisal of

the degree to which a collective identity is important to [one's] overall sense of self" (p. 87). The CISC scale's salience items represent a portion of Ashmore and colleagues' implicit importance element.

Average scores on the *Salience and Importance* factor were below the scale midpoint, indicating slight disagreement with the items overall. The mean for *Salience and Importance* was the lowest of the four factors at 3.10. The highest-loading items were "The fact that I am a working-class person rarely enters my mind" and "In my everyday life, I often think about the fact that I am a working-class person." Therefore, the key items in this factor capture how often participants are consciously aware of being a member of their class.

The low overall scores on identity salience and importance are not entirely consistent with my expectations. First, there is empirical support for the idea that class is an important identity. In a large national survey, 24% of young Canadians (18-29) chose social class as the most or second most important part of their identity, over identities such as gender, ethnicity, and language (Association for Canadian Studies, 2003). Nevertheless, I anticipated that certain structural features of social classes (e.g., permeable group boundaries) and the lack of class discourse in our society might limit the explicit importance of class identity.

Second, I expected salience to be somewhat higher because of the university setting. Attending university is the primary means of upward class mobility, and social identity theory emphasizes the role of the situation or context in activating relevant group identities (Hogg et al., 1995). Moreover, self categorization theory stipulates that conscious awareness of an identity should increase when people are in intergroup

contexts (Gaertner et al., 2002). Because universities have traditionally been considered middle-class or upper-middle-class institutions (Archer, Hutchings, & Ross, 2003), I expected that the presence of working-class students might create an intergroup context.

There is a substantial body of evidence that class differences are obvious at many institutions (Ostrove & Cole, 2003). Many studies have offered compelling evidence that the academic context can make material, educational, and social advantages and disadvantages apparent and class-based identities more salient (e.g., Archer et al., 2003; Dews & Law, 1995; Zwerling & London, 1992). It is important not to discount those experiences based on findings at one institution.

My research was conducted at an urban, comprehensive university with a history of offering opportunity for academically marginalized students. As a result, the school placed low in widely publicized national rankings of university quality and reputation. Admissions criteria have become more stringent in recent years and the university's rankings have improved somewhat, but it is still not among the country's elite universities. Therefore, it is possible that students at this institution are less concerned with prestige than other university students. Alternatively, it may be that the university's more egalitarian history continues to colour interactions on campus. Either way, this particular university may be a setting in which social class differences are not especially obvious or meaningful.

Institutional differences aside, it is also possible that social class becomes more salient as educational attainment increases. Unpublished data from the previously mentioned research on Canadian youth indicated that respondents became more likely to consider social class an important part of their identity as their education levels increased

(Jedwab, 2006). In the present study, salience and importance increased slightly with participants' year of study ( $r = .14, p < .05$ ). These findings suggest that class identity may increase in salience and importance as students complete their education and transition into employment.

Self categorization theory also suggests that salience is higher in intergroup contexts when one is part of a minority group, because this makes distinctive features of the self more central to one's identity (see Gaertner et al., 2002; Oyserman & Markus, 1993). In the current study, working-class students were in a numeric minority, but made up roughly one quarter of the student population. In contrast, at an elite liberal arts college with only 10% first-generation students, experiences of class and classism were relatively common (Langhout et al., 2009). Other studies at elite schools have come to similar conclusions (Granfield, 1994; Kuriloff & Reichert, 2003; Marantz Cohen, 1998; Wentworth & Peterson, 2001). The substantial proportion of working-class students in the present study may explain why CISC scale items designed to measure perceptions of minority status and distinctiveness were not retained as part of the revised scale, as well as partially accounting for low overall scores on salience and importance.

Factor 4, *Mutual Fate*, measures participants' beliefs about how much their opportunities and outcomes in life are influenced by their class membership. The CISC scale's mutual fate factor is similar to Gurin and Townsend's (1986) sense of common fate measure. The items map onto one aspect of Ashmore and colleagues' (2004) identity attachment element, and some items in Jackson's (2002) affective ties factor. In the present research, mutual fate emerged as a separate factor from attachment and embeddedness, though these factors are correlated. This suggests that for class identity,

feelings of attachment to the group are relatively distinct from the perception of common fate with the group.

In both psychological and sociological identity theory, perceived mutual fate is considered a precondition for individuals to participate in collective action on behalf of their group. The construct is similar to the sociological construct of class consciousness. A key difference is that sociologists often focus on participants' beliefs that the fate of people in general is linked to their class membership, whereas the CISC scale measures participants' beliefs that their own fate as individuals is linked to their class membership. This operationalization seems more appropriate for a measure of psychological identification with one's class.

Average scores on the *Mutual Fate* factor were below the scale midpoint, indicating slight disagreement with the items overall. The mean factor score for mutual fate was 3.80, the second lowest of the four factors. The highest loading items were "What happens to working-class people generally will have something to do with what happens in my life" and "My fate and my future are bound up with those of working-class people everywhere." The items in this factor reflect the degree to which participants believe their social class, rather than just their individual attributes, shapes their future.

The low average scores on the mutual fate factor generally mesh with my expectations about working- and middle-class students. Because the working-class students in the present study are all pursuing individual mobility through university education (Jetten et al., 2008), they would not be expected to have high perceptions of mutual fate. Members of low-status groups are likely to pursue individual mobility to achieve higher status unless they perceive a high degree of mutual fate (Barreto et al.,

2004). For middle-class participants, their group's higher status is part of the taken-for-granted background of life. They seem to prefer to attribute their future socioeconomic position to their personal abilities and efforts, rather than to any advantages conferred by their parents' educational or occupational standing.

Overall, the CISC factors demonstrated considerable overlap with the elements of collective identity outlined in other research. The *Attachment and Embeddedness* factor and the *Salience and Importance* factors in particular mapped quite closely onto factors identified by Ashmore and colleagues (2004) and by Cameron (2004). The *Mutual Fate* factor is similar to Gurin and Townsend's (1986) sense of common fate measure. However, whereas other research has found mutual fate to be an aspect of attachment to one's group, mutual fate emerged as a separate factor in my studies. Another difference between the CISC scale's factors and elements of collective identity outlined in other research involves the *Certainty of Self-categorization* factor. This subscale appears to be unique in measuring identity certainty directly, which helps to address a gap in our understanding of social identification for people with differing levels of certainty about their group membership. With the content of the CISC factors described and situated in the broader collective-identity literature, I now discuss relations among the factors.

#### *Relations among the CISC Factors*

The importance of a multidimensional approach to class identity becomes apparent when we examine how the factors are related to each other. In the present research, the pattern of intercorrelations among the CISC factors was identical in both studies, providing evidence of a stable factor structure for the class-identity construct.

Correlations between the CISC factors were all positive, statistically significant, and modest to moderate in magnitude, ranging from .18 to .51 across the two studies. These moderate, positive correlations are consistent with other findings on the relations between elements of collective identification (Ashmore et al., 2004). In addition, the absence of large correlations between factors adds support to the view that collective identity is a multidimensional construct (Deaux, 1996).

Three of the four strongest factor intercorrelations involved *Attachment and Embeddedness*. The strongest correlation was between the *Attachment and Embeddedness* factor and the *Mutual Fate* factor. Students who felt closer to their class and had more same-class relationships were substantially more likely to believe that they would share a degree of common fate with other class members. *Attachment and Embeddedness* was moderately associated with *Salience and Importance*. Participants who had warmer feelings for their class and more same-class relationships tended to be more consciously aware of their class membership and to consider it more important to their sense of self. *Attachment and Embeddedness* was also moderately associated with *Certainty of Self-categorization*. The more certain participants were of being class members, the more they tended to be attached to and socially embedded in their class. The relatively strong correlations between *Attachment and Embeddedness* and the other three factors suggest that emotional and social ties to the group play a central role in class identification. This finding is also consistent with suggestions that emotional aspects of identification may play an especially pivotal role in our understanding of social identities (Jackson, 2002).

Compared to its association with Attachment and Embeddedness, *Certainty of Self-categorization* was only modestly correlated with the other two class identity factors, *Mutual Fate* and *Salience and Importance*. As participants' certainty about their class membership increased, they had a slightly stronger tendency to agree that they shared a common fate with other class members, to be consciously aware of their class membership, and to consider it an important part of their identity. The mostly modest correlations between certainty and other aspects of class identification support the notion that the strength of self-categorization in social groups needs to be examined rather than assumed. My findings suggest that the degree of certainty about group membership increases with emotional and social attachments to the group, and to a lesser extent, with the awareness and importance of group membership and a sense of common fate with group members.

Finally, the second largest of all the factor intercorrelations was between the *Salience and Importance* factor and the *Mutual Fate* factor. Students who were more consciously aware of their class in their daily lives and who considered it a more important part of their self system also were more likely to believe that their class membership would influence their future outcomes in life. Perhaps higher conscious awareness of class in one's daily life is a precondition for the belief that one's future is partly influenced by class membership. Alternatively, belief in a shared fate may be the causal factor that makes class membership a more salient and important feature of one's everyday life and sense of self.

Examining the relations among the four CISC factors illustrates the benefits of a multidimensional conception of class identity. Given the important role of group status in

shaping identity structures and processes (e.g., Ellemers et al., 2000), it seems likely that the strength and direction of relations among identity components may differ across socioeconomic strata. My research did not address this specific question, but it did reveal class differences in the strength and relative importance of the four components of class identity. In the next section, I discuss how the class-identity factors, as well as public and private regard, differ for working- and middle-class participants.

#### *Class Differences on CISC Factors and on Public and Private Regard*

Social identity theory assumes that a drive to maintain a positive social identity underlies processes of social identification and therefore that identification should be stronger for members of higher status groups (Hogg et al., 1995). My findings were consistent with this prediction. Middle-class participants scored significantly higher than working-class participants on overall class identity and on three of the four class-identity factors: *Attachment and Embeddedness*, *Certainty of Self-categorization*, and *Mutual Fate*.

Despite being consistent with social identity theory, the finding that middle-class participants had significantly higher attachment and embeddedness ( $M = 4.68$ ) than their working-class peers ( $M = 4.18$ ) appears to conflict with the findings of Jackman and Jackman (1983). They found that in the general population, members of the “lower” classes reported stronger affective ties than members of the middle and upper classes. In my sample, upwardly-mobile working-class students are striving for middle-class status, and may already be in the process of becoming emotionally and socially distanced from their class background. Some have argued that the drive to maintain a positive social

identity may be less important than the drive for self-consistency (Hogg, 2001), a view that was supported in a study of changing ethnic identity among university students (Ethier & Deaux, 1994). Similarly, being strongly attached to the working-class could be felt as inconsistent with a sense of belonging in higher education (e.g., Jetten et al., 2008; Orbe, 2004). It is also possible that working-class youth who are already less socially embedded within the working class, and therefore have more socioeconomically diverse social networks, are more likely to attend university.

The finding that certainty of self-categorization is lower among working-class ( $M = 4.37$ ) than middle-class participants ( $M = 5.35$ ) is consistent with findings that lower-SES people, youth in particular, are less accurate in identifying their own social class (e.g., see Goodman et al., 2000). Moreover, social identity theory tells us that marginal or atypical members of a social group are especially unlikely to categorize themselves as group members (Ashmore et al., 2004). Despite their modest socioeconomic backgrounds, working-class people who attend university may not see themselves as typically working class, or may gauge their class on the basis of their aspirations as much as on their current socioeconomic status (Bullock & Limbert, 2003; Lehmann, 2009a). In addition, working-class people may also be less likely to categorize themselves as class members because of their group's low social status and because of the real and perceived possibility of upward mobility (Huddy, 2001).

The finding that middle-class participants ( $M = 4.01$ ) scored higher on *Mutual Fate* than working-class participants ( $M = 3.18$ ) suggests that they are more likely to believe that their class position influences their opportunities. They may be more likely to endorse this view because it provides assurances that their current middle-class position

is safe and they will remain relatively fortunate in the future. However, their average score is at the scale midpoint, which indicates neither belief nor disbelief in mutual fate.

Working-class students, on the other hand, appear to believe more strongly in individual mobility than in mutual fate. Research by Goodman and colleagues (2000) supports this interpretation. They found that 79% of working-class 16-year-olds expected to become upper-middle-class as adults. In an adult sample, Bullock and Limbert (2003) found that women attending occupational training as part of a welfare-to-work scheme also harboured unrealistic beliefs about their personal prospects for upward mobility, despite endorsing structural explanations for poverty in general. This apparently paradoxical stance has parallels in research showing that members of marginalized groups readily perceive discrimination against their group, but are less likely to report being personally affected by discrimination (Taylor, Wright, Moghaddam, & Lalonde, 1990). In this light, working-class students may simultaneously disagree with the tenets of meritocracy while believing strongly in their own potential for mobility.

As mentioned earlier, the social identity literature indicates that members of low-status groups must perceive a high degree of mutual fate with others in the group before they will invest in strategies of collective group uplift. When they perceive even a small degree of mobility, they are more likely to pursue individual mobility as a strategy for enhancing their status (Barreto et al., 2004; Moghaddam & Perreault, 2001), and this is particularly so for high-ability members of low-status groups (Ellemers et al., 1988). Attending university is an explicit attempt at individual mobility, so it may be that working-class students are especially disinclined to perceive mutual fate with their group.

The finding that there were no class or SES differences on *Salience and Importance* was surprising. I expected that, as members of a socioeconomic minority on campus, working-class students would experience their class as more salient than middle-class students. However, the findings make more sense in light of the low average scores for both groups on this factor and the fact that it measures explicit importance as well as salience. Explicit importance refers to the subjective appraisal of the importance of the collective identity in one's overall sense of self (Ashmore et al., 2004). If people are reluctant to identify with a low-status group, then working-class students who have just been informed that their parents' education and occupation places them in a relatively low social class may not wish to consider this membership important or central to their sense of self.

For middle-class respondents, salience and importance may be low because being part of a large, indistinct group may not provide a sufficient basis for triggering identification (Brewer, 1991). Therefore, even though they are certain of belonging to the middle class and emotionally attached to it, these students' social class may be too taken for granted, its effects on their lives too imperceptible, to constitute a salient or explicitly important feature of their identity.

In addition to the class differences on three of the four CISC factors, there were also class differences in evaluation, both in how participants evaluated their own class (private regard) and in their perception of how others evaluated it (public regard) (see Luhtanen & Crocker, 1992).<sup>9</sup> Public regard was significantly higher among middle-class

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<sup>9</sup> Recall that the CISC scale operationalized both public and private regard as cognitive evaluations of the group. Emotions associated with group membership are part of the *Attachment and Embeddedness* factor.

participants ( $M = 5.51$ ) than among working-class participants ( $M = 4.34$ ). In other words, middle-class participants' perception of how favourably others evaluate the middle class is high, relative to working-class participants' perception of how favourably others evaluate the working class. This result is consistent with other research that finds the overall evaluation of middle-class people to be more favourable than that of poor- and working-class people. For example, although there are negative stereotypes about people in all social classes, most of the negative class stereotypes describe people in the "lower" classes (Bullock et al., 2001; Cozzarelli et al., 2001a; Lott, 2002). This finding also further explains the lower overall class identity of working-class participants. Their lower public regard scores show that they believe other people have a low opinion of the working-class, which would discourage them from identifying strongly with this lower-status group.

A somewhat unexpected finding was that private regard was significantly higher among working-class participants ( $M = 5.99$ ) than among middle-class participants ( $M = 5.73$ ). That is, working-class participants had slightly more positive evaluations of their own class than middle-class participants had of theirs. It has been suggested that members of stigmatized groups internalize negative stereotypes (Croizet & Claire, 1998) and may have lower self-esteem as a result (Ellemers et al., 2000). Indeed, there is a small positive association between self-esteem and SES/class (Francis & Jones, 1996; Twenge & Campbell, 2002). However, findings in the present study, along with research by Luft (1951, cited in Bullock, 1999a), Jackman and Jackman (1983), and Gorman (2000) provides evidence that poor and working-class people evaluate their group at least as favourably as they evaluate middle-class or wealthy people. This suggests than

findings of lower self-esteem among working-class people may be unrelated to working-class people's cognitive evaluations of their group.

Social identity theory assumes that a positive collective identity is achieved when one's ingroup compares favourably with relevant outgroups (Brown, 2000). For members of a lower-status group, one way to maintain a positive identity is to use "social creativity" to place their own group in a more favourable light (Howard, 2000).

Gorman's (2000) qualitative work on inter-class attitudes demonstrated evidence of this among adult working-class respondents. Recent research has also found that working-class university students denigrate middle-class attributes such as elitism, superficiality and workaholism (Reay et al., 2009; Stuber, 2006) and elevate working-class attributes such as humility, resilience and independence (Lehmann, 2009a). Stuber and Lehmann describe these students as drawing "moral boundaries" that move working-class people from a position of socioeconomic inferiority to a position of moral superiority. This research suggests that the higher private regard of my working-class participants may be based on similar social-creativity strategies.

Differences between working- and middle-class participants on aspects of their class identity, as well as their private and perceived evaluations of their class, provide a more nuanced understanding of class identity. Compared to middle-class participants, working-class participants showed less attachment to and social embeddedness within their class, less certainty about their class membership, and less agreement with the notion of mutual fate with other class members. Rather than characterizing working-class identity in general, these differences may reflect the fact that participants are university students attempting upward mobility. As such, they may see themselves as atypical or

marginal class members, leaving behind their attachment to the working class, becoming embedded in new social networks, and shifting their self-categorization toward membership in the middle class. Their low belief in mutual fate may signal the inherent hopefulness of striving for individual upward mobility.

The finding that public regard was lower for working-class participants than for middle-class participants probably reflects the overall less positive public perception of the working class in society. It also provides evidence that working-class students are aware of their group's low status in the public eye, which may be a factor in their lower levels of class identification. Interestingly, working-class participants' high private regard for their group suggest that they do not internalize this negative evaluation of their class, even though they do not claim strong membership in it.

Clearly, working- and middle-class students differ in terms of the strength and relative importance of the various aspects of their class identity. They also differed in their private evaluation of their class and in their perceptions of the public evaluation of their class. These class differences are relevant to the interpretation of results of the structural equation model analysis, to which I turn next.

### *The Collective Identity of Social Class and Student Achievement*

It will be recalled that the main goal of Study 2 was to examine the role of class identity, academic self-concept, and student engagement, as well as high school average, in mediating the influence of students' socioeconomic background on their academic achievement in university. I used a three-stage process to test a structural equation model of these relations. First, I conducted a confirmatory factor analysis to ensure that each of

the model's latent constructs was adequately measured. After minor modifications to the CISC scale, the measurement model fit the data to an acceptable standard. Second, I tested the structural model to assess the magnitude, direction and significance of the hypothesized relations among the latent constructs. I also tested the model separately for working- and middle-class subsamples to examine how the relations differed for these groups. The structural model reached an acceptable standard of fit to the data in both social classes, as well as in the whole sample of participants. Finally, I used a multiple-group analysis to assess whether or not any of the differences between the groups were statistically significant.

The results provided partial support for my predictions regarding influences on the main dependent measure, university grade point average. Academic self-concept, high school average, and class identity all significantly influenced GPA as predicted; however, neither student engagement nor socioeconomic status had a direct positive influence on GPA. The results also contradicted my expectations about the influence of class identity on GPA. I anticipated that a stronger class identity would have a positive effect on GPA only for middle-class participants, but the results revealed the opposite – a stronger class identity had a positive effect on GPA only for working-class participants.

My expectations regarding influences on student engagement were generally supported. Engagement was directly influenced by academic self-concept and class identity, and the effect of socioeconomic status on engagement was mediated by class identity. Also as predicted, class identity only had a positive effect on engagement for middle-class participants. In terms of influences on academic self-concept, I expected

high school average and class identity both to have positive effects, but only the effect of high school average was significant.

In the detailed discussion that follows, I examine how each of the variables influences its target variables both directly and indirectly, as well as discussing class differences identified by testing the model separately for working- and middle-class subsamples. I begin with influences on the main dependent measure, university GPA, followed by a discussion of the influences on academic self-concept and student engagement.

#### *Grade Point Average*

Twenty-eight percent of the variance in the main dependent measure, university GPA, was explained by the structural model. Among the variables in the model, academic self-concept had the largest direct effect on GPA, whether for the whole sample of participants (standardized estimate = .35), or for the working-class (standardized estimate = .38) or middle-class (standardized estimate = .35) subsamples. This result is in line with other research findings. For example, a meta-analysis by Robbins and colleagues (2004) found academic self-efficacy had a larger effect on college GPA (estimated true correlation = .50) than socioeconomic status, high school grades, standardized test scores, and eight other psychosocial and study skills predictors. In addition, a recent path analysis indicated a direct effect of .40 between Reynolds' measure of academic self-concept and GPA (Cokley & Chapman, 2008), suggesting a strong role for this measure in predicting achievement in university.

High school average had the second largest direct effect on GPA (standardized estimate = .33), which is also in line with the meta-analysis by Robbins and colleagues

(2004). They found that high school average was the second largest predictor of postsecondary GPA with an estimated true correlation of .45. As expected, to the extent that high school average had a positive effect on academic self-concept, it had an additional positive influence on university GPA.

Class identity had the third largest effect on GPA, but its effect (standardized estimate = .14) was less than half the magnitude of the effects of academic self-concept and high school grades. This indicates that students who identified more strongly with their social class tended to earn higher grades. As there has been no previous research linking collective identity of social class with university grades, this finding suggests that the CISC has potential as a new predictor of postsecondary achievement.

Contrary to my expectations, class identity's influence on GPA was direct rather than being mediated by academic self-concept or engagement. This represents a substantial departure from the hypothesized model, in which I expected stronger class identity to enhance both academic self-concept and engagement and for this to lead to increases in GPA. In part, it is explained by the fact that class identity did not have a significant effect on academic self-concept, a result I discuss later. It is also explained by the fact that engagement did not have a significant effect on GPA.

Overall, high school average, academic self-concept and class identity had positive influences on GPA and supported the predictions of the model. The results revealed less support for the other predictors, student engagement and socioeconomic status. Student engagement had no significant effect on GPA for the whole sample or for either social class group. Additionally, because engagement did not significantly

influence GPA, it did not mediate the effects of class identity or academic self-concept on GPA.

The lack of significant role for engagement in predicting GPA disagrees with one of the model's key predictions and with research indicating that all five of the student engagement factors have a modest positive influence on grades (Kuh, 2003; Kuh et al., 2006). In the present study, there was a small significant bivariate correlation between overall engagement and GPA, though only two of the five engagement factors (Academic Challenge, and Active and Collaborative Learning) were significantly correlated with GPA. It is possible that, despite the significant bivariate association, overall engagement did not exert a significant influence on GPA in the structural model because academic self-concept was also included as a predictor of GPA. Engagement researchers have found significant effects on GPA when controlling for high school grades, SES, and other factors, however they have not controlled for academic self-concept.

A second surprising finding regarding influences on GPA was that the direct effect of socioeconomic status was significant but in a negative direction (standardized estimate =  $-.12$ ). This appears to suggest that higher SES leads to lower grades, which contradicts most of the research on this topic. A more likely explanation is apparent from the model's indirect effects. The indirect effect of SES on GPA was significant and in a positive direction (standardized estimate =  $.10$ ), and was partially mediated by class identity, high school average, and academic self-concept. That is, to the extent that participants' socioeconomic status increases their class identity, academic self-concept, and/or high school average, it also increases their GPA. Therefore, although socioeconomic status appears to have a negative influence on GPA, in fact it can also

increase GPA through its effects on these mediators. This suggests that SES has virtually no net effect on GPA (Schreiber et al., 2006).

The opposite direction of the direct and indirect effects of socioeconomic status on GPA suggests a complex relation among SES, GPA, and the mediators involved. At the same time, it is important to acknowledge that even the bivariate correlations between socioeconomic variables and GPA were not significant, a finding that deviates from other research on this issue. For example, the meta-analysis by Robbins and colleagues (2004) found that the estimated true correlation between SES and GPA was .16 for college students in the United States. Unfortunately, there is little research on this question in the Canadian context, where investigators have focused on postsecondary choice and attrition rather than grades. It is not clear whether or not the results in the present study are representative.

#### *Class Differences in Influences on GPA*

To examine class differences in influences on GPA, I tested the structural model separately for working- and middle-class participants. For working-class participants, academic self-concept had the largest direct effect on GPA (standardized estimate = .38), followed by class identity (standardized estimate = .32) and high school average (standardized estimate = .24). For middle-class participants, academic self-concept and high school average had equal effects on GPA (standardized estimates = .35), but the effect of class identity was not significant. For middle-class students, high school average had an additional indirect effect on GPA which was mediated by academic self-concept.

The fact that working-class students' GPA was more strongly influenced by their academic self-concept than by their high school grades supports Gerardi's (1990) findings. His study of low-SES students enrolled in a remedial academic program found that academic self-concept was a better predictor of achievement and retention for these students than their prior academic performance. My findings provide evidence of this phenomenon in a larger and more diverse sample of university students.

Perhaps the most important and surprising class difference was in the differential effects of class identity on GPA. On the one hand, this finding supports my expectation that class identity and GPA would be unrelated for middle class students. For them, attending university is experienced as an ordinary and expected part of the transition to adulthood (Holmstrom et al., 2002; Jetten et al., 2008). Attending university is consistent with their class background, and helps to assure the continuity of their current socioeconomic position. Middle-class students need not be concerned that academic success might alienate them from their familiar class background.

On the other hand, I had expected that a stronger working-class identity would be associated with lower academic achievement. The literature indicates that many working-class students experience tension between their educational and career aspirations on the one hand, and their comfort with and loyalty to their working-class origins on the other hand, and that this tension can dampen academic belonging, ambition, and success (e.g., Bourdieu & Passeron, 1990; Jetten et al., 2008; Reay et al., 2005). Student research participants themselves seldom seem to directly or explicitly frame such tensions as class-related concerns, but many researchers have interpreted findings through the lens of social class. In the present study, where the association between identity and achievement

was measured directly, working-class students with a stronger class identity actually performed better in university.

In developing my ideas about the potentially negative effects of a working-class identity on academic outcomes, the lack of direct evidence in psychology led me to draw on investigations of intellectually stigmatized groups (Steele, 1997; Van Laar & Derks, 2003). These researchers argued that students who identify strongly with intellectually stigmatized groups may disidentify from academic pursuits and success. The finding that a stronger working-class identity is actually associated with greater academic success among my participants suggests that such mechanisms are not at play for working-class university students.

There are a number of potential explanations for this finding. It is possible that a strong working-class identity is, in fact, inconsistent with academic pursuits and success in the general working-class population, but not among those who attend university. In other words, class-related discomfort with higher education may manifest itself primarily in the decision not to attend university. There is ample evidence that students from lower SES backgrounds are less likely to graduate from high school and continue to the postsecondary level and more likely to choose college over university (Butlin, 1999; De Broucker & Underwood, 1998; Knighton & Mirza, 2002), but there is no research on the specific role of psychological class identity in these phenomena. It may be that a majority of working-class youth who identify strongly with their class simply opt out of university education.

Another possibility—not inconsistent with the first—is that among working-class students who do attend university, those who identify more strongly as working class

may benefit academically from certain working-class values that emphasize individual upward mobility. For example, in interviews with working-class students at a Canadian university, Lehmann (2009a) found that some perceived themselves as more hard-working, mature, responsible and independent relative to students from more socioeconomically advantaged backgrounds. These upwardly mobile students appeared to draw strength from the intertwined adversity and resilience to which their working-class backgrounds had exposed them. Stuber's (2006) interviews in two U.S. universities reveal similar perceptions about positive working-class attributes among her working-class respondents. Reay and colleagues (2009) found that upwardly mobile working-class students attending an elite university in the U.K. also coped by drawing on attributes associated with the working class, such as determination, self-reliance and the ability to cope with adversity.

My research did not examine the specific values or attributes identified by Lehmann (2009a), Stuber (2006), or Reay and colleagues (2009), but my findings are consistent with theirs. First, it seems likely that my working-class participants were engaged in acts of individual mobility. They scored low on mutual fate and their relatively low scores on public regard suggest awareness of belonging to a lower-status group. They also had the academic ability to earn admission to university. This combination of high ability, membership in a lower-status group, and low perceived mutual fate means that these working-class students should be especially oriented toward individual mobility (see Barreto et al., 2004).

Although they did not quantify whether or to what degree specific upward-mobility values were associated with higher grades, Reay and colleagues (2009) and

Lehmann (2009a) both reported strong academic achievement among their working-class participants. Moreover, Lehmann also reported that his participants referred to working-class values in accounting for their strong performance.

This leads to the second way that my findings are consistent with those of Reay and colleagues (2009) and Lehmann (2009a). In my study, higher grades were associated not with working-class status, but with working-class identification. As Lehmann observes, a working-class is background as such can hardly be considered an advantage when it comes to university achievement. Individual students must first be able to see their working-class attributes and experiences as advantages, effectively turning real economic and sociocultural disadvantages into advantages that are relevant to academic success. It seems reasonable to speculate that this type of stance toward one's class background is a common thread tying together a stronger working-class identity and stronger academic performance among my participants as well.

In a related line of thinking, some researchers have argued that a strong minority identity may help to buffer people from the effects of prejudice by allowing them to see discrimination where others see individual deficits (Brewer, 1991; Fordham & Ogbu, 1986). In contrast to the disidentification hypothesis discussed earlier, this view posits that when marginalized people understand that some of the challenges they face result from oppression rather than personal inadequacies they may be more likely to persist and succeed despite difficulties. In addition, some accounts of working-class students' university experience suggest that the desire to escape poverty and other negative circumstances can be academically motivating (London, 1989; e.g., Lopez & Hasso, 1998). Thus, a strong working-class identity could benefit low-SES students by

highlighting the educational disadvantages of their socioeconomic background while also motivating them to achieve academically.

In sum, whatever the mechanism psychologically, my study did reveal the unexpected finding that that a stronger working-class identity is associated with greater academic success. Any positive effects of socioeconomic status on academic achievement were explained by its positive influence on class identity, academic self-concept and high school grades. Surprisingly, student engagement was unrelated to academic achievement. In addition to these unexpected findings regarding the effects of socioeconomic status, class identity and engagement on university grades, the results also proved surprising with respect to the model's predictions about influences on academic self-concept.

#### *Academic Self-Concept*

My hypothesized model predicted that high school average and class identity would directly influence academic self-concept, and that socioeconomic status would have additional indirect effects on academic self-concept. The results generally supported my expectations regarding the effect of high school average, but not regarding the roles of class identity and socioeconomic status.

As predicted, high school average did have a significant influence on academic self-concept (standardized estimate = .15), but it was less than half the size of the influence that academic self-concept had on GPA (standardized estimate = .35). This is consistent with findings that academic self-concept and grades are reciprocally related, but that prior grades have a smaller influence on subsequent academic self-concept

compared to the influence of prior self-concept on subsequent grades (Marsh et al., 2005). The effect of high school average on GPA was of virtually the same magnitude in the working- and middle-class groups (standardized estimates of .15 and .16 respectively). However, this effect reached significance only for the middle-class group.

The non-significant effect of high school average in the working-class group was probably related to the smaller sample size of the working-class group ( $n = 117$ ). In addition, the effects of high school average may have been attenuated because the university bases admission on high school average. This means that the range of high school averages represented in my sample is restricted in comparison with research conducted at institutions with open admissions. Because of the association between SES and high school grades, a restricted range would disproportionately affect results for the lower-SES participants.

In a substantial departure from the model, class identity had no significant influence on academic self-concept, whether for the whole sample or for working- and middle-class subsamples. This contradicts my expectation that a stronger middle-class identity might have a positive effect on academic self-concept, because middle-class values are thought to be more in line with feeling confident about one's abilities and about fitting into the academic environment. It also contradicts my expectation that a stronger working-class identity might be inconsistent with a positive self-view in the academic domain.

Another unexpected finding was that socioeconomic status had no influence on academic self-concept. My model predicted that SES would influence academic self-concept indirectly via both class identity and high school average, but these effects were

not significant. I also tested the direct effect of SES on academic self-concept and found it was not significant. Because researchers usually control for SES rather than investigating its effects (e.g., Guay et al., 2004), empirical evidence about the role of SES in academic self-conceptions is sparse (Valentine et al., 2004). Nevertheless, at least one meta-analysis found that SES and academic self-efficacy was significantly related, with an average correlation of .35 (Robbins et al., 2004).

Once again, I had hypothesized that findings about racial and ethnic differences might carry over to SES or class differences, given that many racialized groups have lower SES (McLoyd, 1998) and lower academic self-concept (Hansford & Hattie, 1982). Moreover, across racial/ethnic groups, higher academic self-concept is associated with higher self-esteem, lower stress levels, intellectual rather than vocational motives for attending university, and effective study habits (Michie et al., 2001), a constellation of predictors that led me to expect lower academic self-concept for lower-SES students. These expectations were not supported by tests of the structural model or by the non-significant bivariate correlations between academic self-concept and socioeconomic variables. Overall, the model was not successful in explaining what influences academic self-concept beyond high school grades. In contrast, the results provided far better support for the predictions regarding what influences student engagement.

### *Engagement*

The results supported the model's predictions that engagement would be directly influenced by class identity and academic self-concept, as well as being indirectly influenced by socioeconomic status. Academic self-concept had the largest influence on

engagement. The magnitude of this effect was the same in the whole sample as in the working- and middle-class subsamples (standardized estimate = .33). Regardless of social class, as students' academic self-concept increases, so does their behavioural and psychological involvement in their education. High school average also had a positive effect on engagement, but only via its effect on academic self-concept. This effect did not reach significance in the smaller working-class sample.

Unfortunately, there are no published investigations of the association between academic self-concept and student engagement that employ the same constructs as the present study. Nevertheless, my findings are consistent with literature reviews on the association between similar constructs. For example, Pascarella and Terenzini conclude that academic and social integration are positively associated with academic self-concept (1991) and that students with a more positive overall self-concept tend to be more involved with faculty and peers (2005). In addition, Cokley and Chapman (2008) reported a series of studies that found positive associations between scores on the Academic Self-Concept scale and various measures of student-faculty interaction, which is one component of student engagement.

In a finding relevant to the central thesis of my research, participants' class identity had a positive influence on engagement. The magnitude of the effect (standardized estimate = .15) was less than half the size of the effect of academic self-concept. Testing the model separately in the working- and middle-class subsamples revealed that the effect was significant only for middle-class students. As anticipated, identifying as a middle-class person is more consistent with psychological and behavioural involvement at university than identifying as a working-class person.

It is important to keep in mind that there were no class differences in the level of student engagement. On average, middle class students were no more engaged in university than working class students. However, middle-class students who identified more strongly as middle class were significantly more engaged than middle-class students who identified less strongly with their class. It is not middle-class status per se that influences engagement, but the strength of students' identification with the middle class. The strength of working-class identity had no effect on engagement.

Unfortunately, there is no psychological research to help interpret the association between class identity and student engagement, but examining the correlation matrix (Table 7) provides some insight. Student engagement was significantly associated with only with two aspects of class identity, *Salience and Importance* and *Mutual Fate*. These two class-identity factors were both significantly associated with the same set of three engagement factors: Active and Collaborative Learning, Student-faculty Interaction and Enriching Educational Experiences.

It makes intuitive sense that middle-class students who are more consciously aware of their class, who consider it more important to their overall sense of self, and who believe more strongly that their class affects their future are more likely to take full advantage of the university experience, because doing so helps to assure their future socioeconomic position. With a heightened sensitivity to their class and a belief that it matters for their future, these middle-class students may be more attuned to the long-range benefits of learning with peers, interacting with faculty, and participating in enrichment activities.

In addition to the direct influence of class identity on student engagement, I expected SES to influence engagement indirectly via high school average and academic self-concept as well as via class identity. SES did have a significant indirect effect on engagement. However, recall that SES did not have a significant indirect effect on academic self-concept via high school average. This indicates that the effect of SES on student engagement is fully explained by its effect on class identity.

Although I had not originally included a direct path from SES to engagement in the model, I wanted to explore the possibility that SES influenced engagement directly, perhaps through a variable not included in the model. For example, the student retention literature suggests that low-SES students may be less engaged because they tend to live with their parents and to work longer hours at off-campus jobs (Tinto, 1997). I tested a direct path from SES to engagement but found that it was not significant. My results suggest that the relation between SES and engagement is explained by the positive influence of SES on class identity, specifically for middle-class students.

Overall, the findings supported my expectations regarding the central roles of academic self-concept and class identity in promoting student engagement.

Unfortunately, because engagement did not influence GPA, these findings are ultimately disappointing from the perspective of predicting academic achievement in the short term. Further research is needed to explore how class identity and academic self-concept interact with engagement in predicting longer-range outcomes such as student retention.

*Summary of Class Differences*

The results of my structural equation modelling describe a picture of academic achievement that differs substantially for middle- and working-class students. For both groups, the findings supported the two major predictors of university GPA identified in the literature, academic self-concept and high school average, but showed no effect of student engagement on GPA.

Working-class students' GPA was influenced by their academic self-concept, their class identity, and their high school grades. Interestingly, class identity was even more influential than high school average among working-class participants. Class identity influenced working-class students' GPA directly, having no effect on either their academic self-concept or their engagement.

Middle-class students' GPA was influenced only by their academic self-concept and their high school grades. Class identity had only one significant effect for middle-class students, a positive influence on student engagement. Even though this did not lead to higher grades, engagement may be important for long-term outcomes such as retention.

*Summary and Conclusions*

In my research, I attempted to clarify the structure of social class identification from a social-psychological perspective and to examine its role in mediating the effects of socioeconomic status on university achievement. In recent years, psychologists and others have laid important groundwork by drawing attention to social class and socioeconomic status (Adler et al., 2000; Bullock, 1999a; Bullock & Limbert, 2003; Fine & Burns, 2003; Lawler, 2005; Lott & Saxon, 2002; Reay et al., 2005). However, their

focus has been neither on measuring social class identity, nor discovering what mediates the association between socioeconomic status and academic outcomes. The three main contributions of my research are (1) making socioeconomic status a focus of research on postsecondary achievement, (2) bringing a psychological perspective and a new measurement approach to the study of social class identity, and (3) examining how socioeconomic status and class identity are related to academic outcomes in a comprehensive model that integrates the other major predictors of postsecondary success.

A central aim of this research has been to bring socioeconomic status into sharper focus as a subject of psychological investigation. Despite being routinely included as a variable in psychological research, SES is often inconsistently measured and then statistically controlled, rather than being theorized and studied. In doing this, the discipline of psychology has, ironically, acknowledged that SES is associated with many psychological phenomena while denying the opportunity to engage it as a subject worthy of scientific inquiry.

Psychologists have been calling for more research and theoretical integration of socioeconomic determinants of behaviour (Jessor, 1993; Sirin, 2005; Whiston & Keller, 2004). This work has begun (e.g., Fine & Burns, 2003; Lott & Saxon, 2002; MacPherson & Fine, 1995), notably encouraged by the founding of the American Psychological Association's Task Force on Socioeconomic Status in June 2005. My research continues this exploration in the context of postsecondary achievement, where socioeconomic factors are considered important influences.

As much as the discipline of psychology has neglected the explicit investigation of socioeconomic status, it has been even more silent on the issue of social class. Some

psychologists have called for more attention to the issue (Fine & Burns, 2003; Heppner & Scott, 2004; Liu, Soleck, et al., 2004; Lott & Saxon, 2002; MacPherson & Fine, 1995). They have demanded a “critical psychology of social class” that investigates not only its material implications but also the interaction among class-related variables such as identity and self-conceptions, focusing especially on “the individual’s understanding of him or herself as occupying a classed location” (Ostrove & Cole, 2003 p. 680).

In my own efforts to support this goal, I drew on sociological investigations (e.g., Archer et al., 2003; Bettie, 2000; Reay et al., 2005; Willis, 1981) and autobiographical accounts (e.g., Dews & Law, 1995; Ryan & Sackrey, 1984). These addressed the subjective experience of social class in higher education and helped to shape the questions and hypotheses in my research. My work has contributed a quantitative, social-psychological perspective on how postsecondary experience and outcomes are influenced by the lived experience of class.

Specifically, I examined the psychological phenomenon of identification with one’s social class. Identity researchers have been part of the chorus of voices calling for more attention to social class, pointing out the need for us begin to theorize class to enrich our understanding of social identities (Ashmore et al., 2004; Frable, 1997; Howard, 2000). As the first quantitative, multidimensional measure of social class identity, the Collective Identity of Social Class scale begins that work.

The CISC scale has a number of benefits related to its operationalization of class identification. First, it distinguishes between identity and ideology. Support for class-related ideological views and psychological class identification have been confounded in some previous research on class consciousness, where investigators were driven to learn

why working-class people seldom take collective action to create greater economic equality in society and identify with the middle class (Crompton, 1993). As important as this is in political terms, it does not tell us much about the identity structures or processes involved in working-class individuals' level of identification with their own class, nor about middle-class people's class identification.

A second benefit in the CISC scale's operationalization is that it distinguishes between class identification and class placement (Vanneman & Cannon, 1987). Because people use different criteria to determine their class, and can be inaccurate in placing themselves in a social class, the value of research on their identification with that class may be compromised. To overcome these problems, I designed the CISC scale to measure people's level of psychological identification with their objective social class.

A third advantage of the CISC's operational definition of class identity is its grounding in social identity theory. In developing the scale, I had the benefit of a voluminous and theoretically rich empirical literature and many well-researched measures of identification with social groups. With this foundation, I was able to determine a stable, four-factor structure of class identity across two samples of research participants. In addition, I was able to show how the class-identity factors relate to factor structures obtained in research on other types of collective identity. Moreover, this grounding in social identity theory, which is primarily a theory of intergroup relations, also means that the CISC instrument may have potential as a tool for studying relations between classes.

A final contribution of my research is that it integrates two well-studied predictors of postsecondary achievement in a single explanatory model. Several authors have noted

the lack of integration and synthesis of educational and psychological theory and research when it comes to the study of postsecondary success (e.g., Robbins et al., 2004).

Although there are some notable exceptions (e.g., Pascarella & Terenzini, 2005; Valentine et al., 2004; Van Laar & Derks, 2003), this is certainly true of the literatures on academic self-concept and student engagement.

This is unfortunate, because each of these constructs accounts for a large volume of research as well as underpinning many interventions aimed at improving student outcomes. For example, the website for the National Survey of Student Engagement states that more than 2 million students and 1400 institutions have used the survey since the year 2000. Promoting greater student engagement is a worthy aim, but researchers need to ensure that crucial questions are addressed. Meta-analytic studies have consistently demonstrated that academic self-conceptions are moderately strong predictors of postsecondary success and retention (Multon, Brown, & Lent, 1991; Valentine et al., 2004), which can be effectively modified through intervention programs (Multon et al.). Meta-analytic research also shows that that academic self-efficacy predicts postsecondary grades and retention better than various aspects of student engagement such as student involvement and institutional supports (Robbins et al., 2004). Given these findings, it is surprising that researchers have not yet tested models in which the specific effects of engagement and academic self-concept are deliberately compared.

My findings suggest that academic self-concept influences engagement, and that academic self-concept influences GPA, but that engagement has no effect on GPA. My findings also indicate no social class differences in the level of student engagement, but suggest that a stronger middle-class identity is associated with stronger engagement. This

could be important from a policy perspective because many interventions today are geared toward improving academic success for first-generation students, most of whom would be considered working class. If they are already as engaged as their middle-class peers, and if engagement does not lead to greater short-term success, directing resources toward increased student engagement may not be the best strategy.

One study cannot untangle the causal pathways of complex constructs like student engagement and academic self-concept. These findings require replication and additional scrutiny. Regardless, modeling the effects of these predictors alongside the effects of socioeconomic status and class identity adds a new perspective to both literatures, which previously have taken little account of SES and no account of class identity. My findings suggest that academic self-concept and engagement are closely related variables whose mutual relation to postsecondary achievement warrants further study.

#### *Limitations and Future Research*

Although this research furthers our knowledge about the role of socioeconomic status and class identity in university achievement, there are three major categories of limitations that need to be addressed. The first set of limitations involves the measurement of socioeconomic status and social class. Measuring social class and socioeconomic status remains a significant challenge in psychology, education, and sociology. One issue relevant to the present study is that participants may be inaccurate in reporting their parents' level of education and especially occupation. It appears that young people are quite accurate in reporting their parents' occupations (Looker, 1989; West et al., 2001), but coding occupations is difficult even for experts and it is likely that

parental occupation was measured with a degree of error in this study. It may be ideal, though impractical, to obtain additional information about occupation directly from parents. Perhaps small-scale studies involving parents and students could be conducted to develop a better tool for measuring occupational status.

A second difficulty involves the calculation of SES from the parental education and occupation scores. Developed from earlier measures, the Family Background Index assumes that SES is best represented by the average of mother's and father's education and the average of mother's and father's occupation, rather than using the higher of the two. This may not be the best way to conceive of the influence of parental education and occupation on overall SES for families in which the education and/or occupation of one parent is much higher than that of the other parent. Such cases were relatively rare in my research, but it may be worth testing alternative measures that can take this possibility into account.

A third issue in the measurement of socioeconomic status in my research is the exclusion of parental income from the measure. Some research indicates that lay people, especially lower-SES people, are more likely than researchers to include income in their determination of social class (Goodman et al., 2000; Kuriloff & Reichert, 2003). It is possible that some low-SES participants in this study considered themselves to be middle-class rather than working-class because their parents had high income or wealth despite low scores on education or occupation.<sup>10</sup> Too many such cases could partially

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<sup>10</sup> During data collection, I verified each participant's calculated SES, discretely pointed to the class label indicated by that score, then asked them to complete the working- or middle-class version of the CISC scale. A few low-SES participants commented that their parents' material possessions or income made them middle class. Unfortunately, I did not track these reactions systematically. When participants expressed

account for lower class identity scores among participants categorized as working class. Therefore, despite the significant challenges involved in obtaining accurate information about income and other financial resources, researchers may wish to include such a measure in future studies.

A fourth issue involves the particularity of the SES measure used in this study, which does not allow for comparisons of the SES of participants with that of participants at other institutions or in national samples. Since there is no widely accepted standard for measuring SES in the literature, this problem is not easily overcome. Nevertheless, it must be conceded that the low correlation between SES and engagement, and the lack of significant correlations between SES and academic self-concept, and especially SES and GPA, contradicts other literature on these issues. Recent Canadian data indicate that parental SES may be less of a factor than previously thought in university, but not college, retention (Finnie, Childs, & Wismer, 2010a; Finnie & Qiu, 2009). It is possible that the SES of university students is limited in range and therefore attenuates the effect of SES on other variables. In addition, recent data indicate that the degree of intergenerational mobility in Canada is about twice as high as in the United States and United Kingdom (Organization for Economic Co-operation and Development, 2010), where most of the research linking SES/class and educational choices and outcomes is conducted. To date, we do not have sufficient Canadian research to determine if the relations between SES and academic variables in this study are unique to this campus or representative of Canadian universities.

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such doubts, I used the job-classification protocol to ensure proper coding. If they still believed the class label was wrong, I assured them that their disagreement was valuable information and asked if they were willing to complete the working-class survey.

Even if SES could be measured without error, a final issue is the potential for error in categorizing people as working or middle class, particularly those whose SES scores fall near the midpoint of the scale. It has to be acknowledged that dividing a sample into just two groups is a blunt tool for assessing socioeconomic differences. Establishing the exact nature of the class structure is the province of sociology, where debates on the issue are ongoing (Grusky & Weeden, 2001; Lawler, 2005). What I wanted to do was raise the possibility that notions of class, however imperfect, may have the power to trigger social identification processes and provide another lens for studying academic success. With larger and more diverse samples, it may be possible to research similar questions with a larger number of class divisions.

A second set of limitations in my research concerns the Collective Identity of Social Class scale, a new instrument that needs refinement and further testing. First, the CISC scale should be tested on additional samples. For example, class identity may differ in its content, strength or structure among students at different types of educational institutions or among employed adults, for whom class and status differences may be more apparent than for students. A second issue concerns the content of the CISC scale's items. Although the four-factor structure was supported in two separate samples, some potentially important identity constructs were not retained as part of the scale. In particular, additional research is needed to determine if the CISC scale should include measures of public and private regard. In addition, developing new ways to measure implicit importance and goodness of fit may be fruitful areas for new research.

Another limitation in the development of the CISC scale is that it used only a quantitative approach, which does not allow for a detailed consideration of participants'

class experiences. Qualitative findings were important influences in developing the CISC scale and interpreting the results. An iterative approach to the conceptual development of class identity could turn once again to qualitative methods, perhaps using individual case histories to deepen the theoretical development of this construct. This blending of quantitative and qualitative methods may be a productive way to approach the intersection of class identity with gender, ethnicity and other collective identities.

A potentially important area for future research using the CISC scale would be in studying the role of class identity in decisions about postsecondary study. Understanding the role of social class and class identity in educational choice has been a significant research agenda among a group of U.K.-based sociologists (e.g., Ball, 2003; Reay et al., 2005). A complementary social-psychological approach may be timely in this country given the results of a series of recent studies conducted on national databases. For example, one study of low-income youth in Canada found that nearly half of them decided to attend postsecondary study before high school, that youth with lower parental education decide later than others, and that deciding later is associated with reduced educational attainment (Finnie, Childs, & Wismer, 2010b). This new research on socioeconomic factors in educational choice has the potential to both inform a social psychological research agenda and to be enriched by a social psychological perspective that includes class identity.

Another possibility would be to use the CISC scale to examine the class-identity implications of middle- and upper-class students' educational choices. This dissertation has focused mainly on the problem of lower educational attainment for working-class students. However, many middle- and upper-class students do not conform to class

stereotypes and expectations regarding achievement. A trajectory of downward class mobility is just as important as upward mobility in rounding out our understanding of classed identities in shaping postsecondary choice and achievement.

A third set of limitations concerns the structural model evaluating the role of academic self-concept, engagement and class identity in explaining the relation between SES and GPA. First, this model was tested in just one sample. Testing the linkages among these concepts in other samples such as graduate students, part-time students, or mature students would allow us to better understand the diversity of these groups' experience. In addition, the model should be tested in different types of postsecondary institutions (e.g., community colleges) as well as in universities with a different socioeconomic mix (e.g., elite universities). Widening participation in postsecondary education means that researchers now have more access to research participants from different class backgrounds than has historically been the case.

Tests of the structural model were also limited in that all of the data except GPA were collected at one point in time. GPA was collected at the end of the academic year in which the individual participated in the study, and the lag between measuring the predictors and the dependent measure was not tracked. It is possible that the roles of class identity and the other predictors might change over time. For example, class identity is defined by features that could change as a result of educational experience, such as social embeddedness in one's class of origin, the salience and importance of class to one's overall sense of identity, and the perception of mutual fate with other class members. A longitudinal approach could track changes in class identity, academic self-concept and

engagement over time, as well as their effects on long-term academic performance or other outcomes of interest such as retention, further education, and occupational choice.

A limitation of the structural model itself is that it did not allow for tests of within-class socioeconomic variation because the SES variable was used as the basis for forming the working- and middle-class groups. Measuring differences between working- and middle-class groups is important, particularly for policy and programming decisions. However, studying only group differences can obscure important phenomena revealed by variation within groups. New models could be developed to study how SES operates on achievement, engagement, self-concept and class identity within classes.

Another limitation of the structural model concerns the use of multi-group analysis to determine whether the direct effects differed significantly between working- and middle-class groups. This is a useful method for comparing identical structural models across groups, but the effects of doing so with unequal group sizes is not yet well understood. Larger groups are thought to exert more influence over results. If so, this could lead to errors of inference. However, this may not be an issue if the distribution of group members in the sample is similar to that in the population (Arbuckle, 2006). I was able to find evidence from previous NSSE surveys that parental education levels in my samples were similar to those in the general student body at this institution, but I was unable to obtain comparative data on parental occupation. This is why I report all of the class differences rather than focusing on the results of the multiple-group analysis, which indicated that the only significant difference was in the effect of class identity on GPA.

Finally, although this study measured GPA virtually without error by using institutional data rather than participant self-reports, it must be acknowledged that GPA

itself is an imperfect measure of educational outcomes. Much of the interest in predicting student grades arises from the desire to increase the student retention and graduation rates. GPA as measured in this study is merely an average of the grades earned, and does not take into account the number of courses completed or course withdrawals. At a more fundamental level, grades are only a proxy for student learning and cannot tell us about growth in students' intellectual abilities or any of the other benefits that they—or society in general—may gain from their higher education.

### *Concluding Comments*

Notwithstanding these limitations, I think it is clear that my research has made a significant contribution to the literature. Most fundamentally, it has responded to the voices calling for a psychological perspective in conceptualizing and measuring socioeconomic status and social class. Along with race and gender, social class forms an often-cited triad of the key bases of stratification, but has received relatively little explicit attention from psychologists. My research draws attention to socioeconomic status as a topic worthy of psychological investigation and addresses a neglected sociocultural basis for collective identity.

Examining socioeconomic factors in educational achievement is particularly important because education is the main vehicle for both social reproduction and individual mobility in our society (Flanagan & Campbell, 2003). My research integrates socioeconomic factors into a predictive model that includes academic self-concept and student engagement. In doing so, it adds a focus on social stratification to two disparate literatures that share the aim of understanding and improving university students'

academic success. It also adds to the growing cross-disciplinary conversation that has emerged from efforts to narrate the lived experiences of working-class students (e.g., hooks, 2000; Langhout et al., 2009; Lehmann, 2009b; Marantz Cohen, 1998; Ostrove & Cole, 2003; Stuber, 2006). Because the collective identity of social class is a new construct, the finding that it plays a role in postsecondary achievement needs further investigation but also opens up interesting possibilities for future research.

Most importantly, my research demonstrates how socioeconomic status translates into the psychological phenomenon of the collective identity of social class. Using the collective identity construct to frame psychological questions about social class allowed me to draw on a substantial body of work by other identity researchers (Ashmore et al., 2004; Cameron, 2004; Ellemers et al., 2000; Howard, 2000; Huddy, 2001). The Collective Identity of Social Class scale, the first social-psychological measure of class identity, provides a new tool for other social psychologists who wish to join the effort to bring more visibility to the psychological aspects of life in a stratified society.

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## **Appendix A**

### **Participant Recruitment Announcements**

1. In-class announcement script
2. Campus recruitment poster—Study 1
3. Campus recruitment poster—Study 2

### **In-class Announcements**

#### *Study 1.*

Hello, my name is Rachelle Thibodeau and I'm a Ph.D. student in psychology here at Carleton. I'm here today because I'm looking for people to participate in my research. The study pays \$10 cash for about 45 minutes of your time. If you participate, you will be asked to complete questionnaires regarding your attitudes and beliefs about various groups in society. You will also be asked some questions about your background (gender, family background, hours of work, etc.) and a few of your experiences as a student. The information you provide during the study will be kept confidential and anonymous. The purpose of this study is to develop and validate a questionnaire that examines people's attitudes about certain social groups to which they belong. If you would like to participate, please contact me by email at [rthibode@connect.carleton.ca](mailto:rthibode@connect.carleton.ca) to arrange a time.

#### *Study 2.*

Hello, my name is Rachelle Thibodeau and I'm a Ph.D. student in psychology here at Carleton. I'm here today because I'm looking for people to participate in my research. The study pays \$10 cash for about 90 minutes of your time. If you participate, you will be asked to complete questionnaires regarding your attitudes and beliefs about various groups in society. You will also be asked some questions about your background (gender, family background, hours of work, etc.) and a few of your experiences as a student. Finally, because this study requires some follow-up, you would have to give your permission for the researcher to access your high school and university grades in the Carleton University database. The information you provide during the study will be kept confidential and anonymous. The purpose of this study is to examine people's attitudes about certain social groups to which they belong, and their experiences in university. If you would like to participate, please contact me by email at [rthibode@connect.carleton.ca](mailto:rthibode@connect.carleton.ca) to arrange a time.

**SONA Recruitment Announcement – Study 1**

**PSYC 1001 and PSYC 1002 – Call for Research Participants**

Experiment Title:	<b>Collective Identity Study</b>
Experimenter's Name:	<b>Rachelle Thibodeau</b>
Experimenter's Phone:	<b>520-2600 ext. 1024</b>
Location of Experiment:	
Experiment Number:	
Faculty Advisor:	<b>Dr. Tim Pychyl</b>

**Study Description**

The purpose of this study is to develop and validate a questionnaire that examines people's attitudes about certain social groups to which they belong. As a participant, you will complete questionnaires regarding your attitudes about various groups in society. You will also be asked some questions about your background (gender, family background, hours of work, etc.) and a few of your experiences as a student. There are no known psychological or physical risks in this study, and the information you provide during the study will be kept confidential and anonymous.

The study will take approximately 45 minutes to complete.

<p>Participants will receive their choice of \$10 cash payment or 1 experimental credit</p>
---

You must keep a record of

- Experimenter's name and phone number
- Title of the Experiment
- Location and time

**SONA Recruitment Announcement – Study 2**

**PSYC 1001 and PSYC 1002 – Call for Research Participants**

Experiment Title: **Collective Identity and University Experiences**  
Experimenter's Name: **Rachelle Thibodeau**  
Experimenter's Phone: **520-2600 ext. 1024**  
Location of Experiment:  
Experiment Number:  
Faculty Advisor: **Dr. Tim Pychyl**

**Study Description**

The purpose of this study is to examine people's attitudes about certain social groups to which they belong and their experiences in university. As a participant, you will complete questionnaires regarding your attitudes about various groups in society. You will also be asked some questions about your background (gender, family background, hours of work, etc.) and your experiences as a student. There are no known psychological or physical risks in this study, and the information you provide during the study will be kept confidential and anonymous.

The study will take approximately 90 minutes to complete.

<p>Participants will receive their choice of \$10 cash payment or 1 experimental credit</p>
---

You must keep a record of

- Experimenter's name and phone number
- Title of the Experiment
- Location and time



**Campus Recruitment Poster – Study 2**

**Collective Identity and Student Experiences Study**

**Call for Research Participants**

Ph.D Candidate in Psychology is seeking participants for dissertation research. The purpose of the study is to examine people's attitudes about certain social groups to which they belong and their experiences as a university student. As a participant, you will complete questionnaires regarding your attitudes about various groups in society. You will also be asked some questions about your background (gender, family background, hours of work, etc.) and your experiences as a student. There are no known psychological or physical risks in this study, and the information you provide during the study will be kept confidential and anonymous.

The study will take approximately 90 minutes to complete.

**Participants will receive \$10 cash payment.**

Researcher's Name:	<b>R. Thibodeau</b>
Researcher's Phone:	<b>520-2600 ext. 1024</b>
Researcher's Email:	<b>rthibode@connect.carleton.ca</b>
Experiment Number:	
Faculty Advisor:	<b>Dr. T. Pychyl</b>

Please take one of the tear-off tabs and call or email today to sign up!

Rachelle Thibodeau 520-2600 x 1024  
rthibode@connect.carleton.ca  
Collective Identity & Student Experiences  
Study

**Appendix B**

**Informed Consent**

- 1. Preliminary study: Interviews to Develop Collective Identity Questionnaire**
- 2. Study 1: Collective Identity Study**
- 3. Study 2: Collective Identity and University Experiences**

**Informed Consent: Interviews to Develop Collective Identity Questionnaire**

The purpose of informed consent is to ensure that you understand the purpose of the study and the nature of your involvement. The informed consent is intended to provide enough information for you to determine whether or not you wish to participate.

**Research personnel:** The following people may be contacted regarding this study. Rachelle Thibodeau (Principle Investigator, [rthibode@connect.carleton.ca](mailto:rthibode@connect.carleton.ca)); Dr. Timothy A. Pychyl (Faculty Sponsor, 520-2600, ext. 1403). Should you have any ethical concerns about the study, please contact Dr. Janet Mantler (Chair, Carleton University Ethics Committee for Psychological Research, 520-2600, ext. 4173) or Dr. Mary Gick (Chair, Department of Psychology, Carleton University, 520-2600, ext. 2648).

**Purpose:** The purpose of this study is to refine and improve questionnaires that examine people’s attitudes about certain social groups. The questionnaires are being prepared for use in an upcoming study.

**Task requirements:** You will be asked to “think out loud” while you complete questionnaires regarding your attitudes and beliefs about various groups in society. You will also be asked some questions about your background (gender, family background, hours of work, etc.) and a few of your experiences as a student. The researcher will sit with you and ask you to describe how you are interpreting the questions.

**Potential risk/discomfort:** There are no known psychological or physical risks in this study.

**Anonymity/confidentiality:** The information you provide during the study will be kept confidential and anonymous. Your name will not be recorded anywhere other than on this consent form and these forms will be stored separately from the rest of the data you provide. Access to the data you provide will also be limited to the researchers listed above, and your name will not be revealed in any report regarding this research.

**Right to withdraw:** You have the right to refuse to answer any question and to withdraw from the study at any time, for any reason, without explanation.

---

**Signature:**

I have read the description of the “Collective Identity Study” and understand the conditions of my participation. My signature indicates that I agree to participate in this study.

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, at Ottawa, Ontario.

Participant Name (please print): \_\_\_\_\_

Participant Signature: \_\_\_\_\_

Witness Name: Rachelle Thibodeau

Witness Signature: \_\_\_\_\_

**Informed Consent: Collective Identity Study**

The purpose of informed consent is to ensure that you understand the purpose of the study and the nature of your involvement. The informed consent is intended to provide enough information for you to determine whether or not you wish to participate.

**Research personnel:** The following people may be contacted regarding this study. Rachelle Thibodeau (Principle Investigator, [rthibode@connect.carleton.ca](mailto:rthibode@connect.carleton.ca)); Dr. Timothy A. Pychyl (Faculty Sponsor, 520-2600, ext. 1403). Should you have any ethical concerns about the study, please contact Dr. Janet Mantler (Chair, Carleton University Ethics Committee for Psychological Research, 520-2600, ext. 4173) or Dr. Mary Gick (Chair, Department of Psychology, Carleton University, 520-2600, ext. 2648).

**Purpose:** The purpose of this study is to develop and validate a questionnaire that examines people’s attitudes about certain social groups to which they belong.

**Task requirements:** You will be asked to complete questionnaires regarding your attitudes and beliefs about various groups in society. You will also be asked some questions about your background (gender, family background, hours of work, etc.) and a few of your experiences as a student.

**Potential risk/discomfort:** There are no known psychological or physical risks in this study.

**Anonymity/confidentiality:** The information you provide during the study will be kept confidential and anonymous. Your name will not be recorded anywhere other than on this consent form and these forms will be stored separately from the rest of the data you provide. Access to the data you provide will also be limited to the researchers listed above, and your name will not be revealed in any report regarding this research.

**Right to withdraw:** You have the right to refuse to answer any question and to withdraw from the study at any time, for any reason, without explanation.

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**Signature:**

I have read the description of the “Collective Identity Study” and understand the conditions of my participation. My signature indicates that I agree to participate in this study.

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, at Ottawa, Ontario.

Participant Name (please print): \_\_\_\_\_

Participant Signature: \_\_\_\_\_

Witness Name: Rachelle Thibodeau

Witness Signature: \_\_\_\_\_

### **Informed Consent: Collective Identity and University Experiences**

The purpose of informed consent is to ensure that you understand the purpose of the study and the nature of your involvement. The informed consent is intended to provide enough information for you to determine whether or not you wish to participate.

**Research personnel:** The following people may be contacted regarding this study. Rachelle Thibodeau (Principle Investigator, [rthibode@connect.carleton.ca](mailto:rthibode@connect.carleton.ca)); Dr. Timothy A. Pynchyl (Faculty Sponsor, 520-2600, ext. 1403). Should you have any ethical concerns about the study, please contact Dr. Janet Mantler (Chair, Carleton University Ethics Committee for Psychological Research, 520-2600, ext. 4173) or Dr. Mary Gick (Chair, Department of Psychology, Carleton University, 520-2600, ext. 2648).

**Purpose:** The purpose of this study is to examine people's attitudes about certain social groups to which they belong and their experiences in university.

**Task requirements:** You will be asked to complete questionnaires regarding your attitudes and beliefs about various groups in society. You will also be asked some questions about your background (gender, family background, hours of work, etc.) and a few of your experiences as a student. Finally, because this study requires some follow-up, we also require your permission for the researcher to access your high school and university grades in the Carleton University database.

**Potential risk/discomfort:** There are no known psychological or physical risks in this study.

**Anonymity/confidentiality:** The information you provide during the study will be kept confidential and anonymous. Your name will not be recorded anywhere other than on this consent form and these forms will be stored separately from the rest of the data you provide. Access to the data you provide will also be limited to the researchers listed above, and your name will not be revealed in any report regarding this research.

**Right to withdraw:** You have the right to refuse to answer any question and to withdraw from the study at any time, for any reason, without explanation.

---

**Signature:**

I have read the description of the "Collective Identity and University Experiences Study" and understand the conditions of my participation. My signature indicates that I agree to participate in this study.

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, at Ottawa, Ontario.

Participant Name (please print): \_\_\_\_\_

Participant Signature: \_\_\_\_\_

Witness Name: Rachelle Thibodeau

Witness Signature: \_\_\_\_\_

## **Appendix C**

### **Participant Debriefing**

- 1. Preliminary study: Interviews to Develop Collective Identity Questionnaire**
- 2. Study 1: Collective Identity Study**
- 3. Study 2: Collective Identity and University Experiences**

**Participant Debriefing:  
Cognitive Interviews for Collective Identity Scale Development**

**This debriefing page is intended for you to keep. Please feel free to take it with you for future reference.**

Thank you for participating in this research. The purpose of the study is to refine a questionnaire that will be used to measure the degree to which a person identifies with his or her social class.

In the past, studies have found that researchers and ordinary people have different ideas of what is meant by social class. Researchers usually base a person's social class only on their occupation, income, and/or education. Ordinary people often place more emphasis on income and less emphasis on education and occupation. Ordinary people also tend to include other factors such as lifestyle, goals, and attitudes when deciding to which social class they (and others) belong.

The different ideas about social class have led to problems in conducting valid research. For example, a majority of Canadians and Americans consider themselves middle class, including people with jobs as diverse as truck driver and surgeon. Researchers would usually consider the truck driver to be working class and the surgeon to be upper middle class. Neither is right or wrong, it's just a matter of researchers and ordinary people using different criteria to decide a person's social class.

When researchers try to study how much people identify with their social class, these different criteria for social class can lead to problems. In some studies, researchers ask people to say which class they belong to by choosing from a list (e.g., poor, working class, middle class, upper class), and then they ask people how strongly they identify with that class. If a lot of people choose a class that does not match up with their occupation, education, or income, the findings may not be accurate.

To deal with this problem, I used two-stage approach to measure social class identity in this study. In the first stage, you were asked information about your socioeconomic background (parents' education and occupation). Based on that information, your social class was determined and you were assigned a label of (1) poor or working class or (2) middle or upper class. In the second stage, you were asked questions about how much you identified with that class.

The goal behind this research is to determine how much people identify with their objective social class background, based only on occupation and education. (I did not ask you about income because income is very closely related to occupation and education level for most people.) I believe that how much people identify as a member of a certain social class can be just as important as the actual class to which they belong. In other words, two people may be "working class" based on their education and occupation, but one of these people may feel strong ties to the working class while the other person has never even thought of himself or herself as working class. (The same would apply to any other social class.)

Another unique aspect of this questionnaire is that it measures many different aspects of class identity. In sociological research, "class identity" often has a narrow definition, focusing mainly on working-class people's political attitudes. Many sociologists believe that working-class people have a strong "class identity" if they support labour unions, if they disagree with capitalism, and vote for political parties that put forward those same values. In psychological research, "class identity" has been largely ignored, but psychologists have developed ways of measuring other identities based on gender, race-ethnicity, religion, and so on. I have drawn on these measures for the questionnaire you completed.

Instead of political attitudes, I think class identity consists of many different factors. The ones I included in the questionnaire were as follows:

1. overt self-categorization – how much you agreed with the class label assigned to you in part one
2. salience—how noticeable is your class to you, and how much you feel like a minority because of your class (e.g., if you are the only “poor” person in your classes)
3. importance—how important you say your class is to your overall sense of self, and how important your class is when you choose traits that are important to you, such as “ambitious” or “down to earth”
4. perceived similarity to others in the same class
5. your evaluation of people in your class, and how you think people in your class are evaluated by others
6. attachment—your positive and negative feelings about belonging to your class
7. mutual fate—perception that your opportunities and outcomes in life are related to the class you belong to
8. social embeddedness—the number of relationships in your life that are tied to your class membership.

In a few weeks, about 300 other people will complete the questionnaire, and I will use their responses to determine which of these factors are and are not important in a person’s class identity. By “thinking out loud” and talking with me while you answered the questions, you provided valuable information that I will use to modify the questionnaire. For example, I may change the wording of some questions, clarify the instructions, or otherwise alter the procedures I use.

If participating in this research raised feelings or concerns you would like to discuss with a counsellor, please contact Health and Counselling Services. If you have any ethical concerns about the study, you may report them to the Chairperson of the Psychology Department or the Ethics Committee. All the contact information is provided below. I have also listed two books you may find interesting if you would like to know more about these issues.

I plan to conduct more research on social class background and identity. If you would like to discuss any of your ideas or feelings on these issues, please feel free to contact me to discuss participating in future research or just for an informal conversation.

Person or Service	Role	Phone	Email or web site
Rachelle Thibodeau	Researcher	520-2600 ext. 1024	<a href="mailto:rthibode@connect.carleton.ca">rthibode@connect.carleton.ca</a>
Health and Counselling Services	Professional counselling	520-6674	<a href="http://www.carleton.ca/health">www.carleton.ca/health</a>
Student Academic Success Centre	Academic and other support for students	520-7850	<a href="http://www.carleton.ca/sasc">www.carleton.ca/sasc</a>
Dr. M. Gick	Chairperson, Dept of Psychology	520-2600 ext. 2648	<a href="mailto:mary_gick@carleton.ca">mary_gick@carleton.ca</a>
Dr. J. Mantler	Chairperson, Carleton University Ethics Committee for Psychological Research	520-2600 ext. 4173	<a href="mailto:janet_mantler@carleton.ca">janet_mantler@carleton.ca</a>

### Recommended Reading

- Argyle, M. (1994). *Psychology of social class*. London and New York: Routledge.
- Lubrano, A. (2003). *Limbo: Blue-collar roots, white-collar dreams*. Hoboken, NJ: John Wiley & Sons.

**Thank you once again for helping advance this research through your participation.**

### **Participant Debriefing: Collective Identity of Social Class Study**

**This debriefing page is intended for you to keep. Please feel free to take it with you for future reference.**

Thank you for participating in this research. The purpose of the study is to develop a questionnaire that measures the degree to which a person identifies with his or her social class.

In the past, studies have found that researchers and ordinary people have different ideas of what is meant by social class. Researchers usually base a person's social class only on their occupation, income, and/or education. Ordinary people often place more emphasis on income and less emphasis on education and occupation. Ordinary people also tend to include other factors such as lifestyle, goals, and attitudes when deciding to which social class they (and others) belong.

The different ideas about social class have led to problems in conducting valid research. For example, a majority of Canadians and Americans consider themselves middle class, including people with jobs as diverse as truck driver and surgeon. Researchers would usually consider the truck driver to be working class and the surgeon to be upper middle class. Neither is right or wrong, it's just a matter of researchers and ordinary people using different criteria to decide a person's social class.

When researchers try to study how much people identify with their social class, these different criteria for social class can lead to problems. In some studies, researchers ask people to say which class they belong to by choosing from a list (e.g., poor, working class, middle class, upper class), and then they ask people how strongly they identify with that class. If a lot of people choose a class that does not match up with their occupation, education, or income, the findings may not be accurate.

To deal with this problem, I used two-stage approach to measure social class identity in this study. In the first stage, you were asked information about your socioeconomic background (parents' education and occupation). Based on that information, your social class was determined and you were assigned a label of (1) poor or working class or (2) middle or upper class. In the second stage, you were asked questions about how much you identified with that class.

The goal behind this research is to determine how much people identify with their objective social class background, based only on occupation and education. (I did not ask you about income because income is very closely related to occupation and education level for most people.) I believe that how much people identify as a member of a certain social class can be just as important as the actual class to which they belong. In other words, two people may be "working class" based on their education and occupation, but one of these people may feel strong ties to the working class while the other person has never even thought of himself or herself as working class. (The same would apply to any other social class.)

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3. importance—how important you say you class is to you overall sense of self, and how important your class is when you choose traits that are important to you, such as “ambitious” or “down to earth”
4. perceived similarity to others in the same class
5. your evaluation of people in your class, and how you think people in your class are evaluated by others
6. attachment—your positive and negative feelings about belonging to your class
7. mutual fate—perception that your opportunities and outcomes in life are related to the class you belong to
8. social embeddedness—the number of relationships in your life that are tied to your class membership.

Your responses to the questionnaire, along with those of about 300 other people, will allow me to determine which of these factors are and are not important in a person’s class identity.

If participating in this research raised feelings or concerns you would like to discuss with a counsellor, please contact Health and Counselling Services. If you have any ethical concerns about the study, you may report them to the Chairperson of the Psychology Department or the Ethics Committee. All the contact information is provided below. I have also listed two books you may find interesting if you would like to know more about these issues.

I plan to conduct more research on social class background and identity. If you would like to discuss any of your ideas or feelings on these issues, please feel free to contact me to discuss participating in future research or just for an informal conversation.

Person or Service	Role	Phone	Email or web site
Rachelle Thibodeau	Researcher	520-2600 ext. 1024	<a href="mailto:rthibode@connect.carleton.ca">rthibode@connect.carleton.ca</a>
Health and Counselling Services	Professional counselling	520-6674	<a href="http://www.carleton.ca/health">www.carleton.ca/health</a>
Student Academic Success Centre	Academic and other support for students	520-7850	<a href="http://www.carleton.ca/sasc">www.carleton.ca/sasc</a>
Dr. M. Gick	Chairperson, Dept of Psychology	520-2600 ext. 2648	<a href="mailto:mary_gick@carleton.ca">mary_gick@carleton.ca</a>
Dr. J. Mantler	Chairperson, Carleton University Ethics Committee for Psychological Research	520-2600 ext. 4173	<a href="mailto:janet_mantler@carleton.ca">janet_mantler@carleton.ca</a>

### Recommended Reading

Argyle, M. (1994). *Psychology of social class*. London and New York: Routledge.  
 Lubrano, A. (2003). *Limbo: Blue-collar roots, white-collar dreams*. Hoboken, NJ: John Wiley & Sons.

**Thank you once again for helping advance this research through your participation.**

### **Participant Debriefing: Collective Identity and University Experiences**

**This debriefing page is intended for you to keep. Please feel free to take it with you for future reference.**

Thank you for participating in this research. The purpose of the study is to investigate the relationship between students' socioeconomic background and their academic attitudes and performance. In the past, researchers have addressed issues such as how a person's family background (parents' education and occupation) affects their academic self-confidence, how much they value and participate in academic pursuits, and how well they perform in school and university.

The present study builds on this research by suggesting that *how students think and feel* about their socioeconomic background might also affect them. Specifically, university students from middle- and upper-class families (parents have more education and more prestigious jobs) often feel that attending university is a normal, expected part of life. These students tend to know more about the university system and feel more comfortable in the university environment. They can usually expect their family and friends to understand and support their university experience. In contrast, university students from poor and working-class families (parents have less education and less prestigious jobs) sometimes feel that attending university makes them different or separate from their families and other people they know. They sometimes don't know as much about the university system, or feel uncomfortable in the university environment. Sometimes they feel like their family and friends who did not attend university do not really understand or support their university experience.

The guiding idea behind this research is that students whose personal sense of identity is strongly related to their poor or working-class background may become less involved in their university experience, that their academic confidence (academic self-concept) may be affected, and that they may not earn grades that reflect their true potential. In comparison, students from a similar background who do not feel as strongly identified with being a poor or working-class person may feel more confident, involved, and comfortable in university and therefore be able to earn higher grades. The strength of identification with a middle- or upper-class background is not expected to be related to academic confidence or university experiences.

If participating in today's research has raised any feelings or concerns you would like to discuss with a trained counsellor, please contact Carleton University's Health and Counselling Services. If you would like support with your studies or with adjusting to university, contact the Student Academic Success Centre. Finally, if you have any concerns about the study itself, you may report them to the Chairperson of the Psychology Department or the Ethics Committee. All the contact information is provided on the other side of this page. I have also listed some books and articles you may find interesting if you would like to know more about these issues.

I plan to conduct more research and hope to develop ways to support students who feel like their social class background is affecting them at university. If you would like to

discuss any of your ideas or feelings on these issues, please feel free to contact me to discuss participating in future research or just for an informal conversation.

Person or Service	Role	Phone	Email or web site
Rachelle Thibodeau	Researcher	520-2600 ext. 1024	<a href="mailto:rthibode@connect.carleton.ca">rthibode@connect.carleton.ca</a>
Health and Counselling Services	Professional counselling	520-6674	<a href="http://www.carleton.ca/health">www.carleton.ca/health</a>
Student Academic Success Centre	Academic and other support for students	520-7850	<a href="http://www.carleton.ca/sasc">www.carleton.ca/sasc</a>
Dr. M. Gick	Chairperson, Dept of Psychology	520-2600 ext. 2648	<a href="mailto:mary_gick@carleton.ca">mary_gick@carleton.ca</a>
Dr. J. Mantler	Chairperson, Carleton University Ethics Committee for Psychological Research	520-2600 ext. 4173	<a href="mailto:janet_mantler@carleton.ca">janet_mantler@carleton.ca</a>

#### Recommended Reading

- Argyle, M. (1994). *Psychology of social class*. London and New York: Routledge.
- Dews, C. L., & Law, C. L. (1995). *This fine place so far from home: Voices of academics from the working class*. Philadelphia, PA: Temple University Press.
- Fine, M., & Burns, A. (2003). Class notes: Toward a critical psychology of class and schooling. *Journal of Social Issues*, 59(4), 841-860.
- Higginbotham, E., & Weber, L. (1992). Moving up with kin and community: Upward social mobility for Black and White women. *Gender & Society*, 6(3), 416-440.
- hooks, b. (2000). *Where we stand: Class matters*. New York: Routledge.
- Lubrano, A. (2003). *Limbo: Blue-collar roots, white-collar dreams*. Hoboken, NJ: John Wiley & Sons.
- McDonough, P. M. (1997). *Choosing colleges: How social class and schools structure opportunity*. Albany, NY: State University of New York Press.
- Reay, D., David, M., & Ball, S. J. (2005). *Degrees of choice: Social class, race, and gender in higher education*. Stoke on Trent, UK: Trentham Books.
- Rodriguez, R. (1982). *Hunger of memory: The education of Richard Rodriguez*. New York: Bantam Books.

**Thank you once again for helping advance this research through your participation.  
Your contributions are very much appreciated.**

**Appendix D**

Student Information Survey (includes Family Background Index)

### Student Information Survey

1. Age \_\_\_\_\_
2. Sex  
(a) Male (b) Female
3. Academic major (e.g., Biology, History, Undeclared) \_\_\_\_\_
4. What is the highest degree you plan to complete in university?  
(a) I do not plan to complete a university degree (please explain: \_\_\_\_\_)  
(b) 3-year undergraduate degree (e.g., B.A.)  
(c) 4-year undergraduate degree (e.g., B.A. Honours)  
(d) Masters degree (e.g., M.A. or M.Sc.)  
(e) Doctoral degree (Ph.D.) or professional degree (e.g., lawyer, doctor)  
(f) Other (please describe: \_\_\_\_\_)
5. How many university classes are you enrolled in this semester?  
1    2    3    4    5
6. Your current place of **residence**:  
(a) university residence  
(b) at home with parent(s) or guardian(s)  
(c) rented accommodation (alone)  
(d) rented accommodation (with roommates)  
(e) other (please describe: \_\_\_\_\_)
7. When did you move out of your family home?  
(a) More than 5 years ago  
(b) 4 to 5 years ago  
(c) 2 to 3 years ago  
(d) less than 2 years ago  
(e) I still live at home
8. On average, how many hours per week do you work at **paid employment** while you're in school?  
(a) 0 (you do not have a job)  
(b) 1-5 hours per week  
(c) 6-10 hours per week  
(d) 11-15 hours per week  
(e) 16-20 hours per week  
(f) 21 or more hours per week
9. If you have a job, is it:  
(a) on campus?  
(b) off campus?  
(c) both on campus and off campus, because you have more than one job?
10. Did you graduate from high school?  
(a) Yes (b) No
11. If you graduated from high school, what was your high school grade average?  
\_\_\_\_\_ %
12. Where did you live during your high school years?  
Town/city: \_\_\_\_\_  
Province: \_\_\_\_\_  
Not in Canada? Where? \_\_\_\_\_
13. What type of area was your family home located when you were in high school?  
(a) urban  
(b) suburban  
(c) rural  
(d) other \_\_\_\_\_
14. What is your citizenship?  
(a) Canadian  
(b) Other (please indicate: \_\_\_\_\_)
15. What is your ethnic background?  
(a) Chinese  
(b) South Asian (e.g., East Indian, Pakistani, Punjabi, Sri Lankan)  
(c) Black (e.g., African, Haitian, Jamaican, Somali)  
(d) Arab/West Asian (e.g., Armenian, Egyptian, Iranian, Lebanese, Moroccan)  
(e) Filipino  
(f) South East Asian (e.g., Cambodian, Indonesian, Laotian)  
(g) Latin American  
(h) Japanese  
(i) Korean  
(j) Aboriginal  
(k) White  
(l) Other (Please indicate: \_\_\_\_\_)

**Thank you.**

**Please turn to the next page.**

### Family Background Information

1. Circle the appropriate number for your Mother's and your Father's level of school completed. If you grew up with only one parent, circle only the number for your one parent.

Level of school completed	Mother (or other guardian)	Father (or other guardian)
Less than 7 <sup>th</sup> grade	3	3
8 <sup>th</sup> or 9 <sup>th</sup> grade	6	6
Did not finish high school	9	9
Graduated from high school	12	12
Some or completed college or CEGEP	15	15
Attended university without earning degree	18	18
Completed a bachelor's degree (B.A., B.Sc., etc.)	21	21
Completed a master's degree (M.A., M.Sc., etc.)	24	24
Completed a doctoral degree (Ph.D., J.D., M.D., etc.)	27	27

2. Circle the most appropriate number for your Mother's and your Father's occupation. If you grew up with only one parent, circle only the number for your one parent. If your parents are retired or unemployed, circle their most recent occupation.

Occupation	Mother (or other guardian)	Father (or other guardian)
<i>NOTE: If you are unsure, write your parent's occupation to the right and ask for assistance.</i>	Occupation:	Occupation:
Day labourer, janitor, house cleaner, farm worker, food counter sales, food preparation worker, busboy.	5	5
Garbage collector, short-order cook, cab driver, shoe sales, assembly line worker, mason, baggage porter.	10	10
Painter, skilled construction trade, sales clerk, truck driver, cook, sales counter or general office clerk.	15	15
Automobile mechanic, typist, locksmith, farmer, carpenter, receptionist, construction labourer, hairdresser.	20	20
Machinist, musician, bookkeeper, secretary, insurance sales, cabinet maker, personnel specialist, welder.	25	25
Supervisor, librarian, aircraft mechanic, artist and artisan, electrician, administrator, military enlisted personnel, buyer.	30	30
Nurse, skilled technician, medical technician, counsellor, manager, police and fire personnel, financial manager; physical, occupational, or speech therapist.	35	35
Mechanical, nuclear, and electrical engineer; educational administrator, veterinarian, military officer, elementary, high school and special education teacher.	40	40
Physician, attorney, professor, chemical and aerospace engineer, judge, CEO, senior manager, public official, psychologist, pharmacist, accountant.	45	45

**Family Background Index**

Parents' Education	- If you grew up with both parents add Mother + Father and divide by 2. - If you grew up with one parent enter that score to the right. - Score should be between 3 and 27.	
Parents' Occupation	- If you grew up with both parents add Mother + Father and divide by 2. - If you grew up with one parent enter that score to the right. - Score should be between 5 and 45.	
Family Background Index	Add up the two scores and enter here → Score should be between 8 and 73.	

**What your Family Background Index means**

The Family Background Index is a rough measure of what social scientists call "social class." Social class refers to a combination of a person's education and occupation, or that of their parents for young people.

If your Family Background Index is **between 8 and 40**, social scientists would probably consider your family to be either "poor" or "working class."

If your Family Background Index is **between 41 and 73**, social scientists would probably consider your family to be either "middle class" or "upper class."

These **categories are not perfect**, and there may be other factors that determine a family's social class besides education and occupation. However, for the purposes of this research, please consider this category to be the one that applies to you.

---

**Thank you. The next step is to complete the Social Identity Scale.**

- Please bring your completed questionnaire to the researcher with this page showing. She will give you your next survey.

**Appendix E**

1. Social Identity Scale (Collective Identity of Social Class Scale, Study 1)
2. Social Identity Scale (Collective Identity of Social Class Scale, Study 2)

Social Identity Scale [Study 1]

1. According to the Student Information Survey you completed, social scientists would say that you are from a poor or working-class background. Do you agree that this is the social class you belong to?

- |                   |          |                   |                            |                |       |                |
|-------------------|----------|-------------------|----------------------------|----------------|-------|----------------|
| 1                 | 2        | 3                 | 4                          | 5              | 6     | 7              |
| strongly disagree | disagree | slightly disagree | neither agree nor disagree | slightly agree | agree | strongly agree |

2. On the Student Information Survey, you provided information about your family background that suggests you are a poor or working-class person. How certain do you feel that this label accurately categorised you?

- |                     |                |                        |                               |                      |              |                   |
|---------------------|----------------|------------------------|-------------------------------|----------------------|--------------|-------------------|
| 1                   | 2              | 3                      | 4                             | 5                    | 6            | 7                 |
| Extremely uncertain | Very uncertain | A little bit uncertain | Neither certain nor uncertain | A little bit certain | Very certain | Extremely certain |

3. I'm not totally sure that I'm a poor or working-class person

- |                   |          |                   |                            |                |       |                |
|-------------------|----------|-------------------|----------------------------|----------------|-------|----------------|
| 1                 | 2        | 3                 | 4                          | 5              | 6     | 7              |
| strongly disagree | disagree | slightly disagree | neither agree nor disagree | slightly agree | agree | strongly agree |

4. I can't decide whether I'm middle/upper class or poor/working class.

- |                   |          |                   |                            |                |       |                |
|-------------------|----------|-------------------|----------------------------|----------------|-------|----------------|
| 1                 | 2        | 3                 | 4                          | 5              | 6     | 7              |
| strongly disagree | disagree | slightly disagree | neither agree nor disagree | slightly agree | agree | strongly agree |

5. I get very confused when I try to figure out my own social class.

- |                   |          |                   |                            |                |       |                |
|-------------------|----------|-------------------|----------------------------|----------------|-------|----------------|
| 1                 | 2        | 3                 | 4                          | 5              | 6     | 7              |
| strongly disagree | disagree | slightly disagree | neither agree nor disagree | slightly agree | agree | strongly agree |

6. In my everyday life, I often think about the fact that I am a poor or working-class class person.

- |                   |          |                   |                            |                |       |                |
|-------------------|----------|-------------------|----------------------------|----------------|-------|----------------|
| 1                 | 2        | 3                 | 4                          | 5              | 6     | 7              |
| strongly disagree | disagree | slightly disagree | neither agree nor disagree | slightly agree | agree | strongly agree |

7. The fact that I am a poor or working-class person rarely enters my mind.

- |                   |          |                   |                            |                |       |                |
|-------------------|----------|-------------------|----------------------------|----------------|-------|----------------|
| 1                 | 2        | 3                 | 4                          | 5              | 6     | 7              |
| strongly disagree | disagree | slightly disagree | neither agree nor disagree | slightly agree | agree | strongly agree |

8. Think about the students in your classes, tutorials, seminars, and labs. What percentage of these students do you think are poor or working class, and what percentage do you think are middle or upper-class? Circle the answer that comes closest to matching your perceptions.

- 1 almost 100% poor or working class
- 2 90% poor or working class and 10% middle or upper class
- 3 75% poor or working class and 25% middle or upper class
- 4 50% poor or working class and 50% middle or upper class
- 5 25% poor or working class and 75% middle or upper class
- 6 10% poor or working class and 90% middle or upper class
- 7 almost 100% middle or upper class

9. The social class I belong to is unimportant to my sense of what kind of a person I am.

- |                   |          |                   |                            |                |       |                |
|-------------------|----------|-------------------|----------------------------|----------------|-------|----------------|
| 1                 | 2        | 3                 | 4                          | 5              | 6     | 7              |
| strongly disagree | disagree | slightly disagree | neither agree nor disagree | slightly agree | agree | strongly agree |

10. Overall, belonging to the poor or working class is an important reflection of who I am.

- |                   |          |                   |                            |                |       |                |
|-------------------|----------|-------------------|----------------------------|----------------|-------|----------------|
| 1                 | 2        | 3                 | 4                          | 5              | 6     | 7              |
| strongly disagree | disagree | slightly disagree | neither agree nor disagree | slightly agree | agree | strongly agree |

11. In general, belonging to the poor or working class is an important part of my self-image.

- |                   |          |                   |                            |                |       |                |
|-------------------|----------|-------------------|----------------------------|----------------|-------|----------------|
| 1                 | 2        | 3                 | 4                          | 5              | 6     | 7              |
| strongly disagree | disagree | slightly disagree | neither agree nor disagree | slightly agree | agree | strongly agree |

12. I am a typical member of the poor or the working-class.

- |                   |          |                   |                            |                |       |                |
|-------------------|----------|-------------------|----------------------------|----------------|-------|----------------|
| 1                 | 2        | 3                 | 4                          | 5              | 6     | 7              |
| strongly disagree | disagree | slightly disagree | neither agree nor disagree | slightly agree | agree | strongly agree |

13. Indicate the similarity or difference between yourself and other poor or working-class people.

1	2	3	4	5	6	7
We are as similar as possible	We are very similar	We are a little bit similar	We are neither similar nor different	We are a little bit different	We are very different	We are as different as possible

14. People who are poor or working class are very similar to me in their ideas and interests and feelings about things.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

15. Poor and working-class people are just as good as anyone else.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

16. Poor and working-class people are not as effective as people in other social classes.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

17. In general, I respect poor and working-class people as much as middle- and upper-class people.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

18. Poor and working-class people contribute as much to society as people in other social classes.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

19. Most people consider my social class, on the average, to be more ineffective than other social classes.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

20. In general, other people think that my social class is unworthy.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

21. In general, other people respect the social class that I am a member of.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

22. Just thinking about the fact that I am a poor or working-class person sometimes gives me bad feelings.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

23. In general, I feel close to the poor or the working class.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

24. In general, I have warm feelings toward poor and working-class people.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

25. Generally, I feel good when I think about belonging to the poor or working class.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

26. I believe that the opportunities I have and my outcomes in life are tied to the social class I belong to.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

27. What happens to poor or working-class people generally will have something to do with what happens in my life.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

28. My fate and my future are bound up with those of poor or working-class people everywhere.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

29. Regarding my social class, it is accurate to say “united we stand, divided we fall.”

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

30. Most of the people in my life are poor or working class.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

31. Most of the important relationships in my life are with poor or working-class people.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

32. If my social class changed, I probably would not remain as close with certain key people in my life.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

33. When I think about poor or working-class people, I usually think “we” rather than “they.”

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

34. If someone said something about poor or working-class people, I would feel almost as if they had said it about me.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

### Social Identity Scale [Study 2]

1. According to the Student Information Survey you completed, social scientists would say that you are from a working-class (or poor) background. Do you agree that this is the social class you belong to?

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

2. On the Student Information Survey, you provided information about your family background that suggests you are a working-class (or poor) person. How certain do you feel that this label accurately categorised you?

1	2	3	4	5	6	7
Extremely uncertain	Very uncertain	A little bit uncertain	Neither certain nor uncertain	A little bit certain	Very certain	Extremely certain

3. I'm not totally sure that I'm a working-class (or poor) person.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

4. I can't decide whether I'm poor/working class or middle/upper class.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

5. I get very confused when I try to figure out my own social class.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

6. In my everyday life, I often think about the fact that I am a working-class (or poor) person.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

7. The fact that I am a working-class (or poor) person rarely enters my mind.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

8. The social class I belong to is unimportant to my sense of what kind of a person I am.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

9. Overall, belonging to the working class (or poor) is an important reflection of who I am.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

10. In general, belonging to the working-class (or poor) is an important part of my self-image.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

11. Working-class (or poor) people are just as good as anyone else.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

12. Working-class (or poor) people are not as effective as people in other social classes.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

13. In general, I believe working-class (or poor) people are at least as important as middle- and upper-class people.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

14. In general, I respect working-class (or poor) people at least as much as middle- and upper-class people.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

15. Working-class (or poor) people contribute at least as much to society as people in other social classes.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

16. Most people consider my social class, on the average, to be more ineffective than other social classes.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

17. In general, other people think that my social class is unworthy.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

18. In general, other people respect the social class that I am a member of.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

19. In general, I feel close to the working-class (or poor).

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

20. In general, I have warm feelings toward working-class (or poor) people.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

21. Generally, I feel good when I think about belonging to the working-class (or poor).

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

22. I believe that the opportunities I have and my outcomes in life are tied to the social class I belong to.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

23. What happens to working-class (or poor) people generally will have something to do with what happens in my life.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

24. My fate and my future are bound up with those of working-class (or poor) people everywhere.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

25. Most of the people in my life are working-class (or poor).

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

26. Most of the important relationships in my life are with working-class (or poor) people.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

27. When I think about working-class (or poor) people, I usually think "we" rather than "they."

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

28. If someone said something about working-class (or poor) people, I would feel almost as if they had said it about me.

1	2	3	4	5	6	7
strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree

**Appendix F**

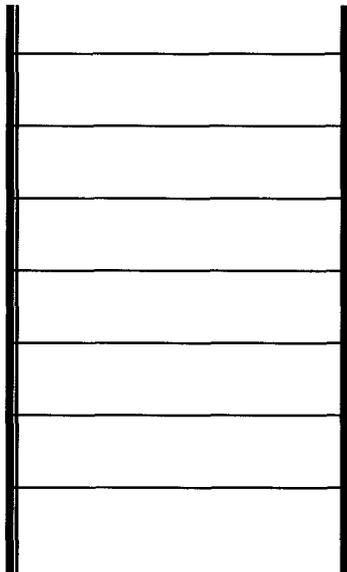
Ladder of Society

### Ladder of Society

Think of this ladder as representing where people stand in our society. At the top of the ladder are the people whose families are the best off; they have the most money, most education, and best jobs. At the bottom are the people whose families are the worst off; they have the least money, least education, and worst jobs (or no job).

Place an **X** on the rung that best represents where you think you stand on the ladder.  
Place an **O** on the rung the best represents where you think most of the students in your classes, labs, tutorial, and seminars stand.

**X** = you  
**O** = other students



**Appendix G**

Importance of Self Descriptions (Implicit Importance Scale, Study 1)

### Importance of Self Descriptions

How important is each of the following descriptions to your overall sense of who you are as a person?

Using the scale below as a guide, circle a number beside each description to indicate how important it is to your overall sense of who you are as a person.

1	2	3	4	5	6	7
Extremely unimportant	Very unimportant	Unimportant	Neither important nor unimportant	Important	Very important	Extremely important

- |     |   |   |   |   |   |   |   |                                 |
|-----|---|---|---|---|---|---|---|---------------------------------|
| 1.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Being an active person.         |
| 2.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Being a down-to-earth person.   |
| 3.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Being an athletic person.       |
| 4.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Being a family-oriented person. |
| 5.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Being a career-oriented person. |
| 6.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Being a creative person.        |
| 7.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Being a sophisticated person.   |
| 8.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Being an accurate person.       |
| 9.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Being an ambitious person.      |
| 10. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Being a loyal person.           |
| 11. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Being a tidy person.            |
| 12. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Being a confident person.       |
| 13. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Being a humble person.          |
| 14. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Being an open-minded person.    |
| 15. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Being a practical person.       |
| 16. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Being an authentic person.      |
| 17. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Being a funny person.           |
| 18. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Being an influential person.    |

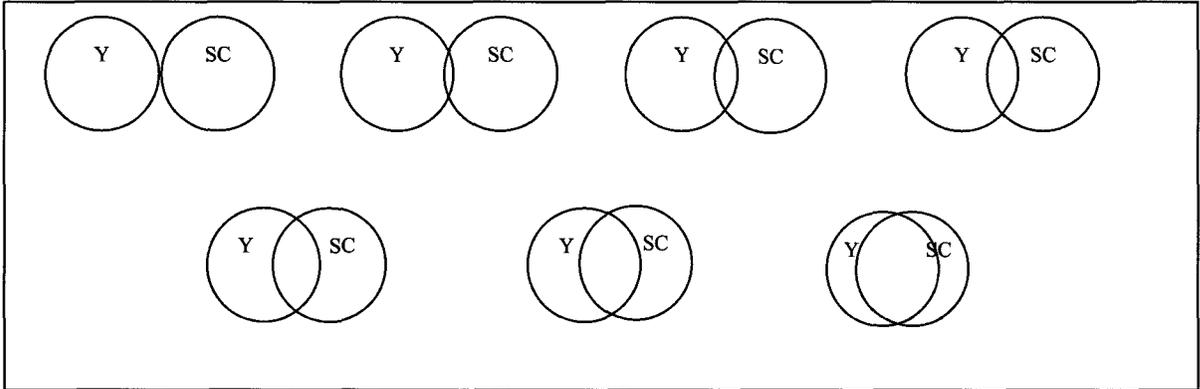
**Appendix H**

Identification with Social Class (Inclusion of Self in the Group Scale)

**Identification with Social Class**

Please circle the pair of circles that you feel best represents your own level of identification with your social class group.

Y = You  
SC = Social Class



**Appendix I**

**Social Attitudes Survey (Meritocratic Ideology Scale)**

### Social Attitudes Survey

Please fill in each blank using the following scale:

1	2	3	4	5	6	7
Very strongly disagree	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Very strongly agree

1. \_\_\_\_ In Canadian society today, everyone basically has an equal opportunity to get ahead. [EO]
2. \_\_\_\_ It is rare that people are given preferential treatment based on their parents being wealthy or having prestigious jobs. [EO]\*
3. \_\_\_\_ In today's society, there is a level playing field for everyone, regardless of their family background. [EO]
4. \_\_\_\_ Every young Canadian today has an equal opportunity to get a good education and a good job. [EO]
5. \_\_\_\_ Compared to the average person in Canada, people who grew up in rich families have a much better chance of getting ahead. [EO]\*
6. \_\_\_\_ The amount of success that people have in education and at work is based mainly on the abilities they have and the amount of effort they put forward. [IA]
7. \_\_\_\_ People who are unsuccessful could improve their situation a lot just by working harder. [IA]
8. \_\_\_\_ People who work hard are more successful than people who don't work as hard. [IA]
9. \_\_\_\_ Most successful people got a lot of things handed to them rather than working for it. [IA]\*
10. \_\_\_\_ Most people who are unsuccessful in life have less ability or don't try as hard as others. [IA]
11. \_\_\_\_ In society, people who have more talent should have more money and status than people who have less talent. [JE]
12. \_\_\_\_ In society, people who work harder should have more money and status than people who don't work as hard. [JE]
13. \_\_\_\_ It is only right that in society there are some people who have a lot and some people who have little, because not everyone has what it takes to succeed. [JE]
14. \_\_\_\_ Incomes should be more equal, because every family's needs for food, housing, and so on, are the same. [JE]\*
15. \_\_\_\_ Incomes should be more equal, because everybody's contribution to society is equally important. [JE]\*
16. \_\_\_\_ Some people have a lot and some people don't have much at all. That's just the way it is, nothing can be done about it. [S]
17. \_\_\_\_ In the future, it's possible that the "haves" and "have nots" could be much more equal. [S]\*
18. \_\_\_\_ A person from a poor family can become wealthy through talent and hard work. [P]
19. \_\_\_\_ A person from a wealthy family can become poor if they are not talented or don't work hard enough. [P]

NOTES: EO = Equal Opportunity; IA = Individual Ability and Effort; JE = Justice of Inequality; S = Stability; P = Permeability. \* Reverse-scored item.  
*Legend and labels not included in participant version.*

**Appendix J**

Inventory of Self Attitudes (Balanced Inventory of Desirable Responding)



**Appendix K**

University Attitudes Survey (Academic Self-Concept Scale)

## UNIVERSITY ATTITUDES SURVEY

Listed below are a number of statements concerning school-related attitudes. Rate each item as it pertains to you personally. Base your ratings on how you feel most of the time. Use the following scale to rate each statement:

<b>1</b> Definitely False	<b>2</b> False	<b>3</b> Mostly False	<b>4</b> More False Than True	<b>5</b> More True Than False	<b>6</b> Mostly True	<b>7</b> True	<b>8</b> Definitely True
---------------------------------	-------------------	-----------------------------	--	---	----------------------------	------------------	--------------------------------

INDICATE YOUR RESPONSE BY CIRCLING THE APPROPRIATE NUMBER. Be sure to answer all items. Also, try to respond to each item independently. Do not be influenced by your previous choices.

- |  |   |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|---|
| 1. Being a student is a very rewarding experience.                             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 2. If I try hard enough, I will be able to get good grades.                    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 3. Most of the time my efforts in school are rewarded.                         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 4. No matter how hard I try I don't do well in school. *                       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 5. I often expect to do poorly on exams. *                                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 6. All in all, I feel I am a capable student.                                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 7. I do well in my courses given the amount of time I dedicate to my studying. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 8. My parents are not satisfied with my grades in college. *                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 9. Others view me as intelligent.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 10. Most courses are very easy for me.   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 11. I sometimes feel like dropping out of school. *                            | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 12. Most of my classmates do better in school than I do. *                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 13. Most of my instructors think that I am a good student.                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 14. At times I feel university is too difficult for me. *                      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 15. All in all, I am proud of my grades in university.                         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 16. Most of the time while taking a test I feel confident.                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 17. I feel capable of helping others with their class work.                    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 18. I feel teachers' standards are too high for me.*                           | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 19. It's hard for me to keep up with my class work.*                           | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

- |  |                 |
|--|-----------------|
| 20. I am satisfied with the class assignments that I turn in.                          |                 |
| 21. At times I feel like a failure.*   | 1 2 3 4 5 6 7 8 |
| 22. I feel I don't study enough before a test.*  | 1 2 3 4 5 6 7 8 |
| 23. Most exams are easy for me.  | 1 2 3 4 5 6 7 8 |
| 24. I have doubts that I will do well in my major. *                                   | 1 2 3 4 5 6 7 8 |
| 25. For me, studying hard pays off.  | 1 2 3 4 5 6 7 8 |
| 26. I have a hard time getting through school. *                                       | 1 2 3 4 5 6 7 8 |
| 27. I am good at scheduling my study time.   | 1 2 3 4 5 6 7 8 |
| 28. I have a fairly clear sense of my academic goals.                                  | 1 2 3 4 5 6 7 8 |
| 29. I'd like to be a much better student than I am now. *                              | 1 2 3 4 5 6 7 8 |
| 30. I often get discouraged about school. *  | 1 2 3 4 5 6 7 8 |
| 31. I enjoy doing my schoolwork.   | 1 2 3 4 5 6 7 8 |
| 32. I consider myself a very good student.   | 1 2 3 4 5 6 7 8 |
| 33. I usually get the grades I deserve in my courses.                                  | 1 2 3 4 5 6 7 8 |
| 34. I do not study as much as I should.*   | 1 2 3 4 5 6 7 8 |
| 35. I usually feel on top of my work by finals week.                                   | 1 2 3 4 5 6 7 8 |
| 36. Others consider me a good student.   | 1 2 3 4 5 6 7 8 |
| 37. I feel that I am better than the average university student.                       | 1 2 3 4 5 6 7 8 |
| 38. In most of the courses, I feel that my classmates are better prepared than I am.*  | 1 2 3 4 5 6 7 8 |
| 39. I feel that I don't have the necessary abilities for certain courses in my major.* | 1 2 3 4 5 6 7 8 |
| 40. I have poor study habits.*   | 1 2 3 4 5 6 7 8 |

**Appendix L**

Student Experience Survey (National Survey of Student Engagement)

## Student Experience Survey<sup>11</sup>

1. In your experience at Carleton during the current school year, about how often have you done each of the following?

				1	2	3	4
				never	sometimes	often	very often
1	2	3	4	Asked questions in class or contributed to class discussions			
1	2	3	4	Made a class presentation			
1	2	3	4	Worked with other students <b>during class</b>			
1	2	3	4	Worked with classmates <b>outside of class</b> to prepare class assignments			
1	2	3	4	Tutored or taught other students at Carleton or as part of a Carleton program (include paid, volunteer, and informal tutoring or teaching)			
1	2	3	4	Participated in a community-based project (e.g., service learning) <u>as part of a regular course</u>			
1	2	3	4	Used an electronic medium (listserv, chat group, Internet, instant messaging, etc.) to discuss or complete an assignment			
1	2	3	4	Discussed grades or assignments with an instructor			
1	2	3	4	Talked about career plans with a faculty member (instructor or professor) or advisor			
1	2	3	4	Discussed ideas from your readings or classes with faculty members (instructors or professors) outside of class			
1	2	3	4	Received prompt written or oral feedback from a faculty member (instructor or professor) on your academic performance			
1	2	3	4	Worked harder than you thought you could to meet an instructor's standards or expectations			
1	2	3	4	Worked with faculty members (instructors or professors) on activities other than coursework (committees, orientation, student life activities, etc.)			
1	2	3	4	Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)			
1	2	3	4	Had serious conversations with students of a different race or ethnicity than your own			
1	2	3	4	Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values			

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<sup>11</sup> All items used with permission from *The College Student Report*, National Survey of Student Engagement, Copyright 2001-06 The Trustees of Indiana University

2. During the current school year, how much has your coursework emphasized the following mental activities?

1	2	3	4
Very little	Some	Quite a bit	Very much

- |   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | Analyzing the basic elements of an idea, experience, or theory, such as examining a particular case or situation in depth and considering its components                            |
| 1 | 2 | 3 | 4 | Synthesizing (blending together) and organizing ideas, information, or experiences into new, more complex interpretations and relationships   |
| 1 | 2 | 3 | 4 | Making judgments about the value of information, arguments, or methods, such as examining how others gathered and interpreted data and assessing the soundness of their conclusions |
| 1 | 2 | 3 | 4 | Applying theories or concepts to practical problems or in new situations  |

3. During the current school year, about how much reading and writing have you done?

1	2	3	4	5
None	Between 1 and 4	Between 5 and 10	Between 11 and 20	More than 20

- |   |   |   |   |   |  |
|---|---|---|---|---|--|
| 1 | 2 | 3 | 4 | 5 | Number of assigned textbooks, books, or book-length packs of course readings |
| 1 | 2 | 3 | 4 | 5 | Number of written papers or reports of <b>20 pages or more</b>               |
| 1 | 2 | 3 | 4 | 5 | Number of written papers or reports <b>between 5 and 19 pages</b>            |
| 1 | 2 | 3 | 4 | 5 | Number of written papers or reports of <b>fewer than 5 pages</b>             |

4. Which of the following have you done or do you plan to do before you graduate from Carleton?

- |                  |                   |            |      |
|------------------|-------------------|------------|------|
| 1                | 2                 | 3          | 4    |
| Have not decided | Do not plan to do | Plan to do | Done |
- |   |   |   |   |  |
|---|---|---|---|--|
| 1 | 2 | 3 | 4 | Practicum, internship, field experience, co-op experience, or clinical assignment  |
| 1 | 2 | 3 | 4 | Community service or volunteer work  |
| 1 | 2 | 3 | 4 | Participate in a learning community or some other <u>formal program</u> where groups of students take two or more classes together |
| 1 | 2 | 3 | 4 | Work on a research project with a faculty member (instructor or professor) outside of course or program requirements               |
| 1 | 2 | 3 | 4 | Additional language coursework   |
| 1 | 2 | 3 | 4 | Study abroad   |
| 1 | 2 | 3 | 4 | Independent study or self-designed major   |
| 1 | 2 | 3 | 4 | Culminating senior experience (capstone course, senior project or thesis, comprehensive exam, etc.) in your last year of study     |

5. Circle the number that best represents the quality of your relationships with people at Carleton.

Relationships with <b>other students</b>	1 Unfriendly Unsupportive Sense of Alienation	2	3	4	5	6	7 Friendly Supportive Sense of Belonging
Relationships with <b>faculty members</b>	1 Unavailable, Unhelpful, Unsympathetic	2	3	4	5	6	7 Available Helpful Sympathetic
Relationships with <b>administrative personnel and offices</b> (e.g., people who staff various services on campus)	1 Unhelpful Inconsiderate Rigid	2	3	4	5	6	7 Helpful Considerate Flexible

6. About how many hours do you spend in a typical 7-day week doing each of the following? (# of hours per week)

a) Preparing for class (studying, reading, writing, doing homework or lab work, analyzing data, rehearsing, and other academic activities)

1	2	3	4	5	6	7	8
0 hours	1-5 hours	6-10 hours	11-15 hours	16-20 hours	21-25 hours	26-30 hours	More than 30 hours

b) Participating in co-curricular activities (organizations, campus publications, student government, fraternity or sorority, intercollegiate or intramural sports, etc.)

1	2	3	4	5	6	7	8
0 hours	1-5 hours	6-10 hours	11-15 hours	16-20 hours	21-25 hours	26-30 hours	More than 30 hours

7. To what extent does Carleton emphasize each of the following?

1	2	3	4
Very little	Some	Quite a bit	Very much

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1	2	3	4	Spending significant amounts of time studying and on academic work
1	2	3	4	Providing the support you need to help you succeed academically
1	2	3	4	Encouraging contact among students from different economic, social, and racial or ethnic backgrounds
1	2	3	4	Helping you cope with your non-academic responsibilities (work, family, etc.)

**Appendix M**

Revisions to NSSE Items

Revisions to NSSE Items

- The original item “worked with other students on projects during class” was changed to “worked with other students during class” because participants interpreted “on projects” as a reference to labs.
- The original item “tutored or taught other students (paid or voluntary)” is changed to “tutored or taught other students at Carleton or as part of a Carleton program (include paid, volunteer, and informal tutoring or teaching)” because participants tended to inappropriately include off-campus tutoring and exclude tutoring of friends and classmates as part of regular study.
- The original item “participated in a community-based project (e.g., service learning) as part of a regular course” was altered by underlining the words “as part of a regular course” because participants tended to inappropriately include volunteer work unconnected to their university.
- Original items including the term “faculty member” were clarified by including “instructor or professor” in parentheses because participants were sometimes unsure about the meaning of the term and/or inappropriately included teaching assistants.
- The original item that begins “synthesizing and organizing ideas” was clarified by adding “blending together” to clarify the meaning of the word “synthesizing.”
- The original item “Participate in a learning community or some other formal program where groups of students take two or more classes together” was modified by underlining the words “formal program” because participants inappropriately included taking classes with their friends.
- The original item “Culminating senior experience (capstone course, senior project or thesis, comprehensive exam, etc.)” was modified by the addition of “in your last year of study” because Canadian universities do not use the term “senior” to describe fourth-year students.
- The original item that asks about “relationships with administrative personnel and offices” was clarified with the addition of “e.g., people who staff various services on campus” because participants often did not know the meaning of “administrative personnel.”