Assessing Variability in Reasoning About Self-Continuity: The Development and Testing of a Likert-scaled Measure

By

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Abstract

An important component of a developing identity is an understanding of personal persistence or self-continuity—how one remains the same person throughout the various changes in their life (Chandler, Lalonde, Sokol & Hallet, 2003). Chandler et al., (2003) have suggested that individuals vary in terms of both the style (essentialist or narrativist) and the level of complexity of their reasoning regarding self-continuity. In previous research this variability has been measured using a lengthy interview process. The present study explored the feasibility of more efficiently measuring variability in self-continuity understanding with the creation of a new Likert scaled questionnaire. Factor analysis suggested that 20 of the newly created questionnaire items clearly displayed a 2-factor structure mirroring the "essentialist" and "narrativist" styles reported by Chandler et al. (2003). Initial evidence of convergence between the interview and questionnaire methods is also apparent in that those rated as essentialists in the interview scored higher on the first *essentialist* factor than narrativists and narrativists by the interview scored higher on the second *narrativist* factor than essentialists.

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Introduction

An appreciation that the self is continuous or persistent through time is a prerequisite to successful identity formation. The importance of a continuous self to psychological functioning has long been recognized within literature on the self and identity. In early work, William James (1892/1961) emphasized its importance when he spoke of the self as consisting of two distinct parts, the "I" and the "Me." When discussing the "I" James struggles with the question of its continuity. In particular, he describes the "passing of consciousness" as the "embodiment of change" and yet he suggests "each of us spontaneously considers that by 'I,' he means something always the same" (James, 1892/1961, p. 63). Those within psychoanalytic circles also struggled to understand the meaning of the term self and how that self becomes understood as continuous. Erik Erikson (1958) highlights feelings of personal continuity in his writing on the development of a sense of identity. His psychobiographical work exemplifies this focus with his description of Martin Luther's struggle for identity. Here Erikson (1958) emphasizes the importance of a persons' ability to tie together their life through time, "as he grows he makes the past part of all future, and every environment as he once experienced it part of the present environment" (p. 118).

More recently, McAdams (2006a) has outlined a particular story of the self that his research participants used to tie together their lives and find continuity. He calls this self story "the redemptive self" and suggests that it pervades contemporary American culture. According to McAdams (2006a), redemptive self stories contain a plot in which the protagonist's suffering leads to an enhanced or more integrated life. In addition to this redemptive turn, the narratives often contain four plot similarities: 1) a sense that the

participant was chosen for a special role as a child; 2) early in their life they became sensitive to the suffering of others; 3) that they are committed to a clear set of inner values, and; 4) that they expect continued growth in the future. McAdams (2006a) also finds evidence of this kind of story in American historical documents and in the discourse of popular culture. It seems then, that some concept of a continuous self takes center stage in both historical and contemporary understandings of human development and functioning.

The main aim of this project is not to provide a history of the concept of a continuous self, but rather to better understand how young persons experience and understand the idea of a continuous or persistent self. This thesis will outline the creation and initial psychometric evaluation of a new Likert-scaled questionnaire meant to examine how individuals experience self-continuity. The psychometric evaluation will provide initial evidence of the factor structure for this questionnaire as well as evidence for its convergence with a previously used interview.

Chandler, Lalonde, Sokol and Hallet (2003) have examined what they term 'self-continuity' or 'personal persistence'. Their research has suggested that young persons employ one or the other of two different *styles* of reasoning when discussing self-continuity: narrativist and essentialist. In addition, the authors suggest that an individual's reasoning can be characterized at one of five different age-graded *levels* of reasoning within each style. The semi-structured interview used to determine an individual's approach to self-continuity is somewhat limited in practicality first by its lengthy administration time and secondly by the time and effort involved in transcript analysis. A

more efficient tool to measure variability in reasoning about self-continuity could be useful in understanding an individuals' developing sense of self and identity.

Instrument selection has proven difficult in previous research on self-continuity. Chandler et al. (2003) report that simply asking young people why they are the same person in spite of changes in their life typically results in confused and uncommunicative participants. To address this problem, the interview begins with introduction to the issue of personal continuity through stories of character change (for example, the story of Ebenezer Scrooge). The interviewer then asks participants to explain why it is that the character is still the same person despite these changes. Following this, the interviewer asks participants to explain their own continuity in the face of change. Development of the Likert-style, Self-Continuity Style Questionnaire (SCSQ) in this project incoporates this design issue by including an introduction to the construct, which is similar to portions of the interview. The goal of this project was to empirically examine participants' ratings of the newly created items on the SCSQ to determine whether they capture variability in reasoning about self-continuity in the same fashion as the standard self-continuity interview.

Chapter 1: Defining Self-Continuity Reasoning Style

Self-Continuity, the Self, and Identity

Before discussing the process of creating the SCSQ and the empirical evidence collected about its validity, it is necessary to distinguish the construct of self-continuity reasoning style from similar constructs about the self and identity. Though the concept of self has a long history in psychology, studies have not often examined the ways in which people understand the continuous nature of selfhood. To understand why reasoning about self-continuity is an important developmental issue, we must first look into the literature on the development of self, the development of identity and consider why variability in an understanding of self-continuity may be important to both of these issues. The following section makes the case that an understanding of self-continuity and the creation of this new measurement tool are important to the study of identity formation.

Since Erikson's (1959/1980) theory of personality development, which considers the development of a personal identity the major concern of adolescence, there has been an abundance of work on adolescent and emerging adult identity development. Much has been written about the similarities and differences in the terms self and identity. In particular, many consider it essential to differentiate the terms (Erikson, 1959/1980; McAdams, 1985, 2001). Hart, Maloney and Damon (1987) suggest that identity is only "one type of experience associated with a sense of self" (p. 122), and thus in this work the term self has been operationalized as a more general construct than identity. That the word "self" appears as part of so many psychological terms (e.g., self-concept, self-esteem, and self-understanding) speaks to this idea of self as a more general construct.

In addition, some research has looked at the early stages of the development of an understanding of selfhood (Nelson, 2003). This work more clearly shows the distinction between the terms self and identity as it posits that the self is understood differently at different points in life. Nelson (2003) suggests that the self begins development in early infancy, when the infant gains a sense of his or her own directedness. Based on this early directedness, Nelson (2003) outlines six levels of "self-understanding," through which children generally progress. These stages are: the physical self, the social self, the cognitive self, the representational self, the narrative self, and the cultural self. More recently, Nelson (2007) conceptualizes these levels as an "expansion of consciousness" and as a way to think of human development as a whole. This new conceptualization, though somewhat different from the previous term self-understanding, still makes the point that individuals have different ways of understanding the self at different points in the life course.

McAdams (2001) also posits that aspects of self-understanding may be apparent early in development, but, following Erikson (1959/1980), he suggests that an individual's true sense of identity begins in adolescence. According to McAdams (2001), identity involves an integration of various understandings of the self, and it is not until adolescence that humans possess the cognitive ability to integrate different aspects of the selfhood into a coherent whole. For McAdams, identity is the narrative construction, or the story, that ties together the self. Similarly, Habermas and Bluck (2000) present an argument for why it is that the story of oneself—to them a story capable of confirming an identity—may begin to emerge in adolescence. They suggest that the ability to create a *good* story, or a story containing four types of global coherence (temporal, biographical,

causal, and thematic), depends on the achievement of other cognitive milestones, specifically a capacity for formal operational thought. Though some aspects of self-understanding relevant for an autobiography, specifically temporal and biographical coherence, may emerge earlier, it is not until adolescence, they argue, that we are capable of all four. This capability then provides the necessary tools to formulate a coherent life story tying together various aspects of the self and providing a life with meaning.

Habermas and Bluck (2000) and McAdams (2001) both suggest there is a difference between the construct of self and the construct of identity. Though aspects of the self are present very early in development, according to Nelson (2003, 2007) the self is experienced differently at different points in the life course. For McAdams, (2001) the cognitive tools needed to tie various aspects of selfhood into a coherent identity begin to appear in adolescence. The question now is: how does this brief review of theories about self and identity help us understand the importance of variability in understandings of self-continuity? To address this question the following section will review literature on relations between the concepts of identity and self-continuity.

From Identity to Self-Continuity

For a number of years, Chandler and his colleagues have conducted in- depth analyses of how young persons come to understand what the authors describe as "the paradox of personal persistence" —finding continuity of selfhood in the face of change (Chandler, Boyes, Ball & Hala, 1987; Chandler, 1994; Chandler & Lalonde, 1998; Chandler, Lalonde & Sokol, 2000; Chandler, Lalonde, Sokol & Hallet, 2003; Lalonde & Chandler, 2004). Chandler (2000) notes that this paradox lies in the fact that "persistence, like change, is not an elective 'feature of selves' but a constitutive condition of their

coming into being" (p. 211). Thus, according to Chandler, in order to have a self, we must be able to understand that self as persisting through change. Lalonde (2003) echoes this sentiment with his statement that without persistence, the self would, "simply fail to be recognizable as what we ordinarily take our selves to be" (p. 4). Chandler (2000) and Lalonde (2003) maintain that a sense of sameness and continuity is a necessary part of the concept of a self.

Sameness and continuity are also important to the psychological construct of identity. Erikson (1959/1980) initially defined what he called "a sense of ego identity" as "the accrued confidence that one's ability to maintain inner sameness and continuity (one's ego in the psychological sense) is matched by the sameness and continuity of one's meaning for others" (p. 94). As suggested earlier, William James' (1892/1961) idea of the "I" also speaks to the notion of continuity. Specifically, when explaining personal identity, James writes, "so far, then, my personal identity is just like the sameness predicted of any other aggregate thing, it is a conclusion grounded either on the resemblance, or on the continuity of the events compared" (p. 68). Early psychological theorizing on identity then, suggests that this construct necessitates the experience of some sort of continuity in one's life.

Other identity theorists such as Marcia (1987) and Hart, Maloney and Damon (1987) have focused on different aspects of the concept, but it is arguable that these theories also incorporate experiences of continuity. Hart, Maloney and Damon, (1987) for example, suggest two components that the term identity encapsulates: first that the self is continuous over time; and second, that the self is different or unique from others. Thus, the experience of continuity is one of the necessary components of identity in this

description. Marcia's (1987) well known and well researched developmental model of identity also includes a sense of continuity. His four identity statuses (foreclosure, diffusion, moratorium and achievement) assess the process through which individuals come to make identity related commitments in their life. These commitments are assessed in a number of content areas (who one is, what one believes), and an individual's process of exploring options and making commitments provides him or her with the sense of continuity.

Recently, researchers have questioned whether Marcia's identity status tradition truly captures an experience of self-continuity. In a study comparing identity status and continuity (as measured by the extent to which individuals rated statements about themselves similarly in different contexts), Dunkel (2005) found a correlation between high levels of self-continuity and being in one of Marcia's committed statuses (foreclosed and achieved). This suggests that individuals who are committed in terms of their identity experience continuity of selfhood.

Dunkel's (2005) concept of "continuity"—whether people describe themselves as the same in different contexts—does not, however, ask participants to explain *how* they remain the same throughout changes in their life. What is important to the Chandler et al. (2003) concept of self-continuity is how an individual comes to understand that they are, in fact, continuous even though they may have changed in various ways (i.e., they need not describe themselves as the same in different contexts). Hart, Maloney and Damon (1987) suggest that this understanding may be especially problematic in adolescence, when young persons experience a number of important changes. Interestingly then, what Chandler (2000) calls "the paradox" of continuity through change may be especially

prominent during adolescence, when Erikson (1959/1908) originally suggested the concept of identity as the major concern. As discussed by Chandler et al. (2003) self-continuity allows individuals to own their past and envision their future. As will be discussed in the following chapter, this project is meant to assess variability in the way individuals reason about how the person they envision becoming, who was different in the past, and could be again in the future, is in fact still them.

The Costs of Failures in Self-Continuity

The argument presented thus far has made the case for the importance of an understanding of sameness within change, or personal continuity, as a part of a developing identity. Much of the work by Chandler and colleagues about the construct of self-continuity has focused on the consequences of failures of self-continuity. The work of Ball and Chandler (1989), for example, suggests that failures of self-continuity—losing the ability to connect one's past and present to some anticipated future—uniquely marks actively suicidal young persons in ways that other predictors such as depression and suicidal ideation do not.

Applying this work to suicidal individuals in this work came about as an attempt on the part of the Chandler and colleagues to find a developmental means of accounting for the large number of suicides and attempted suicides among adolescents. In doing so, Chandler (1994) hypothesizes that "adolescents in general, and suicidal adolescents in particular, regularly suffer some breakdown in their ability to see themselves as temporally connected to their own determining pasts and likely futures" (p. 63). Here, Chandler (1994) is tying problems in seeing oneself as continuous to the high frequency of suicidal behavior among adolescents.

Chandler et al. (2003) have suggested that, as they mature, young persons adopt increasingly sophisticated forms of reasoning about self-continuity. These levels of reasoning reflect qualitatively different ways of solving this problem. This stage model will be discussed in greater detail later, but what is important to note here is that these proposed levels are thought to be discontinuous. According to Chandler (1994), a discontinuous growth model "leaves open the possibility of pathologies arising from awkward or failed transitions from one ontogenetic level to the next" (p. 63). Individuals in the midst of a particular transition between levels may lack the conceptual means to tie the self they currently experience with the self of the past and of the future. Chandler (1994) suggests that this lack of understanding may leave an individual more vulnerable to the transient suicidal thoughts that many adolescents experience but abandon in favor of some envisioned future for the self.

To make this point, Ball and Chandler (1989) present empirical evidence showing that with the standard self-continuity interview, hospitalized individuals at high risk for suicide were much less likely to provide any solution to the "paradox" of their personal continuity than both hospitalized individuals at low risk of suicide and non-hospitalized controls. Compared to 14% of low risk participants and no control participants, 82% of individuals at high risk of suicide were not able to provide any explanation for how they were the same individual throughout all the changes in their lives. Chandler (1994) suggests that these results "create a picture of self-continuity problems as essentially unique markers of suicidal behavior" (p. 68), and that problems in transitioning between different ways of understanding self-continuity may be part of what is experienced by suicidal individuals.

The possibility that problems in explaining personal continuity are part of the experience of those at high risk for suicide supports one of the practical purposes of creating the self-continuity style questionnaire (SCSQ). The creation of a more useable and efficient measure of variability in how a person reasons about self-continuity could be useful in determining the sort of self-understanding a person is constructing in their life. It must be stated; however, that the SCSQ is not being created as a tool to help diagnose suicide risk or suicidal behavior. As will become clear elsewhere, it would be difficult for a Likert-style questionnaire to capture those individuals who entirely lack an understanding of self-continuity. The purpose of creating the SCSQ is instead to assess variability in how individuals reason about their self-continuity. Still, since Chandler (1994) ties together an understanding of self-continuity and risk for suicidal behavior, there could be some important therapeutic implications. Specifically, the SCSQ could be useful in determining which style of reasoning about continuity individuals are constructing in their lives

Chapter 2: Variability in Approaches to Self-Continuity

Different Styles of Reasoning

The first aspect of variability in reasoning about self-continuity is what Chandler et al. (2003) have called an individuals reasoning "style." After interviewing over 400 participants, Chandler et al. (2003) report that young people typically use one of two overall styles when reasoning about their self-continuity: 1) the "essentialist" style and 2) the "narrativist" style. According to Chandler et al. (2003), the essentialist style involves "efforts to marginalize change by attaching special importance to one or more enduring attributes, that are imagined to stand outside of, or otherwise defeat time" (p. 8). Essentialists claim they are the same person throughout changes in life by looking to and searching out parts of themselves that have not changed. In contrast, those preferring the narrativist style, solve the problem by "throwing their lot in with time and change, and supposing that any residual demands for sameness can be satisfied by pointing to various relational forms that bind together admittedly distinct time slices of one's life" (p. 8). Narrativists focus on the connections between various changes in life when explaining self-continuity, as opposed to those aspects of themselves that stay the same. Chandler and Proulx (2007) suggest that essentialists take a hybridized view of the self, such that the current self is a "hybrid" of their previous self. Narrativists, on the other hand, take more of a "metamorphic" view in which change is not problematic, and attempt to describe relationships or connections between their experienced and changed selves.

Both of these styles are functionally equivalent, in that they provide the individual with a workable explanation of self-continuity. Though both styles of reasoning are equally successful, Chandler et al. (2003) report that individuals typically show a

preference for one or the other in their interview responses. They also report on longitudinal research showing that individual style ratings remain consistent over time. A preferred style, however, does not mean that people are able to understand only one style and not the other. Indeed, Chandler et al. (2003) suggest that both styles could be accessible and indeed are sometimes found within the same interview transcript. One possible advantage of the newly developed Likert-scaled questionnaire is that it may be possible to quantify the degree or extent of this style preference. This scaled measure could thus provide an estimate for how much an individual prefers to use either an essentialist or a narrativist style to discuss their self-continuity.

Origins of the Different Styles of Reasoning

If it is true that people tend to prefer one strategy when explaining their personal continuity, then how do they choose between them? Though this question does not explicitly concern us in the creation of a new instrument, delving into the literature about how individuals may develop a preference may lend credence to the distinction itself. Though there has been little work on the development of an essentialist strategy, some theoretical work in the literature on identity development suggests concepts that display similarities to descriptions of the essentialist reasoning style. For example, the concept of eudaimonic identity put forth by Waterman (1993, 2004) as well as Swartz and Waterman (2006) seems to show some similarities to the essentialist style. Waterman (1993) suggests that as young persons develop their sense of identity an important aspect is finding a "guiding vision" for their life. To examine how people find this vision, he looks to the philosophy of eudaimonism, which posits that people are called to "recognize and live in accordance with the daimon or 'true self'" (p. 150). This idea of a "true self"

involves the search for one essential or unchanging part and is thus similar to the essentialist style of self-continuity reasoning. Waterman's (1993, 2004) work on eudaimonic identity examines aspects of a developing identity that could be especially relevant to those who prefer an essentialist style of reasoning. Thus far, Waterman's research, has involved only culturally mainstream participants, who, as will be discussed shortly, are more likely to employ an essentialist style.

In contrast to this essentialist solution, Chandler et al. (2003) report that some participants choose a more relational or "narrative" solution to explain their personal continuity in time on the standard self-continuity interview. Much like Waterman's (1993) work on how people come to understand their true self, other work has looked at the early development of a narrative understanding of self and identity. Nelson (2003) suggests that the beginning of a narrative understanding of self emerges around 3 to 6 years of age with the onset of autobiographical memory. According to Nelson, it is here that children integrate "action and consciousness into a whole self", and establish "a self history as unique to the self" (p. 7). Similarly, McAdams (2001) in his narrative model of identity, suggests that it is with a life story that we tie these various autobiographical memory fragments together into a coherent whole. Herman's (1996) dialogical self, as well as Bruner's (1990, 2003) theory of the self as narratively based also speak of this type of narrative understanding of selfhood. Indeed, Chandler et al. (2003) have tied this narrative strategy of explaining one's continuity to self-understandings based on work by these three authors as well as Norenzyan, Choi and Nisbitt's (2004) holistic understanding, Ricour's (1985) emphasis of process over structure and Dennett's (1992) description of self as the "center of narrative gravity" (p. 9). Here, then are theoretic

formulations of selfhood, which, though not explicitly about the construct of self-continuity reasoning style as operationalized in the SCSQ, do lend credence to the functionality of the "narrativist" style of reasoning about self-continuity.

In addition to describing the different strategies, Chandler et al. (2003) have also suggested that the choice of default strategy is influenced by a person's cultural background. Lillard (1998), in her analysis of various ethnopsychologies has suggested that the understanding of self is one aspect of psychology in which cultural folk psychologies may differ. Recently, Wang (2006) has suggested "the development of self knowledge as a process of cultural adaptation in which children, guided by socialization agents, internalize cultural views about the self into their own self-understanding and remembering" (p. 182). In addition, he suggests that these cultural differences are evident as early as 3 years of age. Thus, because an appreciation of self-continuity is an aspect of self-understanding important to personal identity, how people of different cultures tend to explain their self-continuity may also differ.

Chandler et al. (2003) provide evidence that this indeed is the case. They chose to compare a sample of Canadian Aboriginal youth to a group of culturally mainstream Canadian youth. They found that the Aboriginal participants were more likely to employ a narrativist style of reasoning (86% to 14%) and culturally mainstream participants where more likely to employ an essentialist style of reasoning (76% to 24%). They suggest that the reasons for this difference may lie in the different philosophical and folk psychological understandings present in the cultural environment of these adolescents. This explanation would agree with Bruner's (1990) suggestion that it is through folk psychological understandings that cultures present narratives from which individuals

make meanings. In addition, Nelson's (2007) developmental model also seems to support this contention. According to Nelson, conceptual development in children proceeds as children begin to "enter a community of minds" with shared cultural meanings (p. 209). Conceptions of self, and self-continuity could indeed be part of the cultural meanings children gradually come to comprehend, and in terms of Nelson's theory, revise by fitting them into their own personal meanings.

In support of the importance of cultural understandings to individual development, Waxman, Medin and Ross (2007) have recently looked at how the concept of folk biological understandings may differ between cultural groups. They found that Native American children were more likely than European American children to describe blood as being the agent for transmission of biological kind. They suggest that the importance placed on blood descendancy in this culture may make blood a more common issue of discussion within Native American culture. This discussion may then have influence on the folk biological understandings that the youth develop. Chandler et al. (2003) suggest that thinkers such as Plato and Descartes may have embued western culture with more essentialist thought, whereas the oral history of Aboriginal peoples with its "metaphysics of potentiality and actuality" may have led to a more narrativistic understanding. Though different cultural backgrounds may support one solution strategy over the other, it also is the case that *within* cultures some individuals will prefer the less common strategy. Thus, cultural background does not prescribe one's preference. Indeed, as recent theory on culture and development (Nelson, 2007) emphasizes, culture does not form the mind, but through a constructive process on the part of the individual, culture becomes meaningful based on one's previous personal experience and meanings. The

importance of folk psychological understandings in the dominant culture to an individual's developing self understanding, suggested by Bruner (1990) and Nelson (2007) and Wang (2005), however, could be seen as an explanation for why one solution strategy would be more common among members of a given cultural group.

What does it mean to be Essentialist or Narrativist?

One remaining question concerning variability in reasoning about self-continuity is why this sort of style differentiation should matter? This researcher suggests that there could be both practical and theoretical purposes for making this distinction. In terms of practical benefits, knowing an individuals' preference could be important in determining what sort of self-understanding a person is developing, which in turn could have therapeutic implications for those experiencing problems in identity formation. For example, if someone shows a high preference for essentialist ideas about self-continuity, making use of both theoretical work and suggested interventions from the similar perspective of eudaimonic identity theory (Waterman, 1993, 2004) could prove especially useful. Similarly, if someone is found to show a high preference for narrativist ideas about self-continuity it could be more appropriate to make use of theoretical work on narrative identity (McAdams, 2001) and the various types of interventions, or narrative therapies, suggested by this perspective (e.g., Lieblich, McAdams & Josselson, 2004).

Theoretically, determining an individual's style of reasoning could be important because there could be correlations between this distinction and differences in other types of self-knowledge or self-understanding. As Wang (2003) outlines, the individualist/collectivist distinction has been useful in examining cross-cultural variations in self-understanding. Up to this point there has been little work examining the

implications of this essentialist/narrativist distinction, which also seems to be related to a person's cultural background. This could partly be because of the difficulties inherent in using the semi-structured interview. Thus, a more efficient measure sensitive to this variability could be useful in understanding what other differences in self-understanding, if any, are linked to the essentialist and narrativist styles of reasoning about self-continuity.

These sorts of implications have been explored by Brandstätter and Lalonde (2006) in their study of differences between essentialists and narrativists in their 'personal projects.' Little (2006) defines personal projects as "extended sets of personally salient action in context" (p. 25) and suggests them as a productive unit of analysis in understanding personality. Brandstätter and Lalonde (2006) presented participants with both the standard self-continuity interview and a personal project analysis in order to examine the expression of differing self-conceptions (essentialist/narrativist reasoning) in everyday life. Differences between essentialists and narrativists were found not in their overall appraisals of their projects, or in their overall well being, but instead in the content domains of their personal projects and in the relations between project domains and their well being and personality. This result suggests differences between essentialists and narrativists in aspects of how personal projects are important to an individual's self-concept.

In addition, Chandler et al. (2003) present evidence that self-continuity reasoning style is related to different scores on Dweck' s (1999) implicit theories of personality scale. More specifically, they report that essentialists were more likely to display an "entity" orientation where individuals agreed with statements suggesting that personality

traits stay the same and that narrativists were more likely to display an "incremental" or "process" orientation where individuals agree with statements suggesting personality allows for relatively easy change. Dweck (1999) suggests that people's implicit theories of personality—what she calls self-theories—create a meaning system which then influences their motivation, how they interpret events, their coping styles, as well as many other aspects of mental health. Based on these relations, the way an individual reasons about their self-continuity could also be influential to the sort of meaning system they construct, and thus to how they understand various other aspects of psychological functioning. The creation of a more efficient instrument to distinguish between the styles of reasoning could thus be of both practical and theoretical use.

Different Levels of Complexity in Understanding

Individual preference for the essentialist or narrative style is not the only aspect of reasoning about self-continuity that displays variability. In addition to differentiating between essentialist and narrativist styles reasoning, creation of the SCSQ items took into consideration the different *levels* of complexity in self-continuity reasoning outlined by Chandler et al. (2003). These authors describe a total of five levels of complexity for each style of reasoning and suggest that each of these levels represent qualitatively different argument strategies. In their early examination of the essentialist style, Chandler, Boyes, Ball and Hala (1987) suggest that the "level of cognitive-developmental maturity sets limits on the particular form of warranting practice that can be called into play" (p. 108). Chandler, Lalonde, Sokol and Hallet (2003) report that only those who have reached Piaget's level of formal operational thought were capable of calling on the final two

warranting strategies (Levels 4 and 5). *Table 1* presents brief summaries of the five levels for each style of understanding, as described by Brandstätter and Lalonde (2006).

Though there would be advantages to a questionnaire measure that could differentiate these levels of complexity, measurement difficulties could arise with the presentation of items that span the entire range of levels to participants. Specifically, it is not clear how participants would respond to items meant to exemplify levels of complexity that may outstrip their usual level of reasoning. How, for example, should a person reasoning in a less complex way respond to statements exemplifying a higher level of complexity? For this reason, psychometric evaluation of the SCSQ proceeded to focus on the overall style of reasoning as opposed to the level of complexity of this reasoning. As will be discussed in the methodology section, however, development of the items for the SCSQ involved sampling across levels of complexity in reasoning for each style.

Table 1:

Summary of self-continuity strategies

Essentialist Strategies	Narrative Strategies
Level 1: Simple Inclusion Arguments The self is understood to be a simple assemblage of parts without internal structure. Continuity is maintained by finding any aspect of the self, no matter how trivial, that has managed to remain intact: one remains the same because, for example, their fingerprints or hair colour has not changed.	*Level 1: Episodic Arguments* What passes for permanence is a simple chronological listing of events without providing any true plot structure. The mere contingency of events in time is thought to vouchsafe personal persistence across changes of any and all sorts
Level 2: Topological Arguments Anything seemingly novel is argued to have already been present from the beginning, although perhaps temporarily obscured (e.g. "It looks to you like I've changed, but that's just because you've never seen this side of me before"). Change is discounted as a matter of mere appearance.	*Level 2: Picaresque Arguments* Respondents at this level construct somewhat more complex narratives, according to which, what passes for plot is simply a listing out of episodes in which the hero acts in ways that confirm their true character. Within such stories, circumstances change, but persons do not.
Level 3: Epigenetic Arguments Change is seen as the result of an unfolding epigenetic plan that includes anticipated periods of immaturity that can create an illusion of discontinuity in those lacking an understanding of how life normally unfolds (e.g. "I know I seem different, but I always had it in me to be just the way I am right now").	*Level 3: Foundational Arguments* Past and present lives are seen as cause and effect-the "person" one has become is the inevitable consequence of antecedent events which have set his/her life on an unwavering and fatalistic course. The plot of such narratives concerns the sequence and impact of these cause and effect chains.
Level 4: Entity (Frankly Essentialist) Arguments Change can be written off as mere phenotypic variations, while, beneath this changing surface structure, there remains a core essential sameness capable of paraphrasing itself in endless superficial variations (e.g., "I have always been competitive-as a child I wanted to win races, now I want to get the best grades").	*Level 4: Embodiment (Frankly Narrativist) Arguments* Selves are embodied agents who share responsibility for the eventual shape of their own biographies. Arguments of this sort are true bildungsroman, or stories of character development governed by a real discoverable plot that is seen to reveal the precise reasons that things turned out as they did.
Level 5: Theory-based (Revisionist) Arguments While the self is still a kind of "entity" permanence and change are now seen to exist simultaneously, forming a dynamic equilibrium. Accounts of self are provisional, or theory-like, and seen as being in need of active and continual revision	*Level 5: Interpretive Arguments* The current narrative is seen to be only the latest in a perhaps endless series of attempts to interpretively re-read the past in light of the present. Continuity arises only out of the abstract pattern of ones effort to make ongoing sense of ones self.

In summary, the aim of these opening chapters has been to underscore the importance of an understanding of self-continuity in the development of a sense of self and identity. This concept has been differentiated from the overarching concept of self and has been suggested to be important to conceptions of personal identity. In addition, evidence has been presented regarding differences in both the style and level of complexity that young persons use to reason about self-continuity. It was suggested that two separate styles of reasoning (narrativist and essentialist) are routinely employed, and that a preferred style of reasoning is related to cultural background as well as other variables of psychological interest. The question now is whether it is possible to assess the style of reasoning that an individual young person might use to explain his or her self-continuity with a more efficient Likert scaled questionnaire. More specifically, the empirical question at the heart of this project is whether or not the newly created SCSQ items can provide enough information to accurately determine the preferred style of reasoning an individual uses to explain their personal persistence or self-continuity.

Chapter 3: Measures and Methodology

Purpose

The present study represents an attempt to quantify variability in reasoning about self-continuity with the initial field test of the self-continuity style questionnaire (SCSQ). The SCSQ employs a set of Likert scaled items developed by the researcher (see Appendix A), to exemplify both the essentialist and narrativist styles of reasoning. For this project, the researcher created 40 items using Kline's (2005) scale development methodology. Administration of the SCSQ asks participants to rate each item on a five-point scale ranging from "very much like me" to "not at all like me."

The SCSQ is more efficient than the standard self-continuity interview as it allows for group testing of participants and it avoids the lengthy interviewing and transcription process. The standard self-continuity interview does allow the opportunity for greater probing and depth into both level and style of an individuals reasoning and should be considered the current "gold standard" in measuring an individual's reasoning self continuity. The potential of the SCSQ, however, to efficiently quantify variability in the style of reasoning, could be useful in future research that aims to explore relationships between reasoning about self-continuity and other aspects of an individual's developing self-understanding and identity.

Hypotheses

Initial psychometric evaluation of the SCSQ consisted of an analysis of the factor structure of the SCSQ as well as an examination of evidence for convergent validity between the SCSQ and the standard self-continuity interview. Examination of the factor structure of the SCSQ involved an exploratory factor analysis. Factor analysis examines

the pattern of correlations among the variables, or items on the scale. This technique involves extracting underlying factors that bring together scores of closely related individual variables. For this study, it was hypothesized that the underlying factors involved in participants' rating of the newly created SCSQ items are the different styles that people use to reason about their self-continuity. Thus, it was predicted that the factor structure should be interpretable in light of these hypothesized styles of understanding. Following the main analysis was a comparison between the participant's factor scores and their ratings on standard self-continuity interview to provide evidence for convergent validity. For the convergence analysis, it was hypothesized that there would be differences in participants factor scores on the SCSQ depending on whether they were rated as narrativist or essentialist in their self-continuity reasoning style by the interview procedure.

Participants and Procedure

Participants in this study were 232 university students (164 females and 68 males), taking part in the psychology research participation pool at the University of Victoria in British Columbia, Canada. The psychology research participation pool consists of psychology students at the university of Victoria, mostly students in psychology 100, who participate in research projects for class credit. As part of this pool, participants sign up for studies they wish to engage in at a time set up by the researcher. Participants in this study were largely (70%) female, which is consistent with the distribution of males and females in the psychology research participation pool. Since this study was an exploratory psychometric evaluation of a newly developed questionnaire and because Chandler et al. (2003) have not reported significant gender

differences in self-continuity reasoning style with the standard self-continuity interview, this skewed distribution of gender should not be problematic.

The age range of participants in this study was from 17-39 years, with a mean age of 20.6, and with only four participants above the age of 30 years. Participants were asked about, but not required to report ethnicity, and among those who reported their ethnicity (194 participants, or 84% of the sample), the large majority listed themselves as European/Caucasian (141 participants, or 61% of those reporting ethnicity). Among the remaining participants, 34 individuals (18%) listed themselves as Asian, eight as Indian (4%), three as African (2%), two as First Nations (1%) and six as "other" (3%).

For this study, each participant was administered the newly developed self-continuity style questionnaire (SCSQ) and an exploratory factor analysis was preformed with this data. Administration of the 40 item SCSQ took about 20 minutes for each participant. In addition, a subgroup of 34 participants were also administered the standard self-continuity interview as well as the SCSQ to examine evidence of convergence between the two measures. Each participant in this subgroup was first administered the standard self-continuity interview as it involves a lengthy interview to the construct of self-continuity. Following administration of the interview these participants were then each administered the SCSQ. For this subgroup of participant's the entire study took about 1 hour and 30 minutes to complete. Participants were reimbursed for their participation with extra course credit toward their class grade, as is standard for the psychology research participation pool. Since this is an exploratory study of a newly developed questionnaire and since the sample is somewhat restricted in terms of demographic variability, no further demographic analyses were performed.

This sample of convenience resulted in a restricted range of cultural variability. Since the style of reasoning is strongly related to cultural upbringing, and because most participants were culturally mainstream Canadians, it was expected that the preference for essentialist style of reasoning would predominate among those being interviewed. Taking this sample demographic into consideration, Brandstätter and Lalonde (2006) have shown that even within this culturally restricted population, it is still possible to identify both essentialists and narrativists using the standard self-continuity interview.

The Standard Self-Continuity Interview

The self-continuity interview employed with the subset of participants was the same semi-structured interview described by Chandler, Lalonde, Sokol and Hallet (2003). The interview involves introducing participants to the problem of continuity by first presenting well-known stories in which the protagonist undergoes a significant character change. For this study, participants were asked to read or listen to the narration of two stories used in the standard interview (Jean Valjean/Monsieur Madeline and Rhipisunt/Bear Woman).

After each story, participants were asked questions about whether the protagonist is the same person at the end as at the beginning, and following this they were asked questions about how it is that the story character is the same person even though they have changed. After being asked questions about both of the stories, participants were then asked about continuity in their own lives. In order to prime participants to discuss change within their own lives, they were first asked to describe themselves when they were 10 years old and then to describe themselves at this point in their lives. Changes were pointed out and then they were asked about how they have remained the same

person throughout these changes. The prompts for all the interview questions are presented in Appendix B. These responses were then transcribed and coded for the style of reasoning used, as is standard for the self-continuity interview.

The Self-Continuity Style Questionnaire (SCSQ)

The initial self-continuity style questionnaire (SCSQ) created for psychometric evaluation consisted of 40 Likert-scaled items (Appendix A), with 20 items designed to reflect a narrativist approach to self-continuity and 20 items designed to reflect an essentialist approach to self-continuity. In addition, five items were developed to reflect a level of reasoning ranging from Level 2 to Level 5 for each style. Thus, of the 20 items developed to reflect an essentialist understanding, five items were meant to reflect a Level 2 understanding, five items reflected a Level 3 understanding, five items reflected a Level 4 understanding, and five items reflected a Level 5 understanding. In the same way, for the 20 items meant to reflect a narrativist understanding, five items were developed to reflect each of the levels of complexity from 2 to 5 for the narrativist style. Items reflecting Level 1 for both the essentialist and narrativist styles were not included in the initial field testing because early pilot testing found that older participants, such as those within the sample population, tended to over-think these items and thus they may not be useful for a sample of university undergraduate students.

In addition, the newly created SCSQ also included an introduction to self-continuity derived from the interview. These questions are also included in Appendix A. First, instructions on the questionnaire ask participants to describe themselves as they were at age 10 and then to describe themselves in the present. Following this, instructions ask participants to describe any changes in their life. Participants are then informed that

each item reflects a way of understanding how they are the same person despite these changes in their life and they are then asked to respond to each item on the five point scale in terms of how much it is "like me." Pilot testing by the main researcher before the initial field test found that this sort of introduction was useful in introducing the construct of self-continuity to participants.

Item Development

Kline (2005) suggests that in developing the content of items for psychological measurement one should consult both the empirical literature on the construct and in some cases consult subject matter experts. The process of writing the 40 SCSQ items for this initial field test has involved both of these approaches. Creation of the items for this study has involved both the reading of in-depth descriptions of style and level provided by Chandler et al. (2003) and the reading of some available transcripts from previously administered self-continuity interviews. In addition, after writing the 40 items for this study, the researcher sent the items to subject matter experts for evaluation. The subject matter experts used in this case were two of the authors of the monograph presenting the theory about different self-continuity reasoning styles, Lalonde and Hallet from Chandler et al. (2003). These individuals are university researchers who were involved in developing the theory and thus would be familiar with the coding of different styles from interview responses. In this study, the researcher asked the subject matter experts whether they thought that the statements accurately reflect the intended style and level. The researcher then used these responses to modify some of the original items and to determine the 40 items to be included in the initial field testing of the SCSQ.

Finally, before the initial psychometric evaluation, the researcher engaged in pilot testing of the 40 items to determine their suitability for use with the target population. Participants in this pilot testing were mostly upper-year psychology students, often with some experience in psychological testing. These initial pilot tests consisted of an administration of the 40 item Likert-scaled questionnaire. After this administration, the participants were asked about how they understood and rated each the items, what their ratings were based on, and what they were thinking about when making their rating decisions. As a result of this pilot testing, the wording on some of items judged confusing was modified. In addition, the "very much like me" to "not at all like me" continuum was found to be more preferable to the standard "strongly agree" to "strongly disagree" continuum on the Likert scaled questionnaire.

Chapter 4: Results

Reporting of results for this study follows the order in which the researcher preformed the analyses. Data analysis began with a screening process meant to identify missing values, data recording errors, univariate and multivariate outliers, and to confirm the assumption of normality. Following this screening process, analysis continued with an exploratory factor analysis. An initial factor extraction was run without specifying the number of factors to produce a scree plot. Examination of the scree plot determined the amount of factors present in this dataset. After deciding on the number of factors to be extracted, a maximum likelihood factor extraction was preformed with an oblique promax rotation to improve interpretability. The final solution for the factor analysis also produced factor scores for participants on each of the extracted factors. These scores represent "estimates of the scores participants would have received on each of the factors had they been measured directly" (Tabachnick & Fidell, 2007, p. 650). Factor scores were given in the form of regression coefficients through SPSS and used in an analysis for evidence of convergent validity of the SCSQ and the self-continuity interview.

Data Screening

Data screening techniques were employed before conducting a factor analysis of the data. First, the dataset was examined for missing values and data recording errors. No data recoding errors were found and there were a few missing values in the data set (nine values in a dataset containing a total of 9,280 entries). Since missing values were so rare, the nine missing values were excluded from subsequent analyses using the pairwise exclusion option in SPSS.

Second, using descriptive statistics, the distributions of questionnaire items were analyzed to confirm the assumption of normality present in multivariate analysis. Two variables displayed substantial skewness and kurtosis. Specifically, item 16 displayed substantial negative skewness (-2.347 with a standard error of 0.160), and positive kurtosis (6.540 with a standard error of 0.318). To test these values for significance Tabachnick and Fidell (2007) suggest deriving *z* scores for both skewness and kurtosis by dividing the statistic by its standard deviation. For item 16, these *z* scores suggested that both skewness and kurtosis values were well outside the normal distribution. Item 6 also showed substantial skewness and kurtosis (-1.182 and 1.402 respectively), though not as strongly as item 16. Again, both values were outside the normal distribution using Tabachnick and Fidell's (2007) critical test. The substantial skewness and kurtosis of these items would make them problematic in terms of planned multivariate analyses. In addition, because the purpose of the questionnaire was to help distinguish participants who prefer narrativist reasoning from those who prefer essentialist reasoning, and because these two items were highly endorsed by most participants, the items fail to be of any practical value. For these reasons, items 16 and 6 were excluded from all subsequent analyses. In summary, screening for normality reduced the total number of items for use in factor analysis from 40 to 38.

Step 3 in the screening process involved the identification of cases (persons) that were univariate or multivariate outliers. First, *z* scores were calculated for participants on all the variables. Tabachnick and Fidell (2007) suggest that any *z* score above 3.29 be considered a potential univariate outlier. An examination of the *z* scores revealed that all cases identified as potential outliers were derived from just six of the 38 items.

Specifically, items 1, 2, 4, 8, 22, and 38 all contained potential univariate outliers while the remaining 32 items contained none. Again, since the intent of this study is to develop a set of items that best distinguish between different self-continuity reasoning styles, it was decided that deleting these problematic items would yield a clearer analysis of the factor structure. The six items with univariate outlying cases were excluded from further analysis bringing the total amount of items to be used in the factor analysis to 32.

The data were also screened for cases that were potential multivariate outliers. This involved a calculation of Mahalanobis distance, which is a measure of the distance of the specific case from the centroid of the remaining cases created by the intersection of the means of all the variables. Tabachnick and Fidell (2007) suggest that the values of Mahalanobis distance can be checked for significance using the X^2 distribution with the number of variables as degrees of freedom. In the case of the SCSQ with the eight items removed, the degrees of freedom used was 32 which suggested a critical value of 62.48 at $p < 0.001$. Using this critical value, six additional cases were identified as potential multivariate outliers. Tabachnick and Fidell (2007) suggest that one option for a small number of multivariate outliers is to simply delete the cases. With a total sample size of 232, it seemed reasonable to assume that sacrificing six potentially problematic cases, which could have an inflated influence on the correlations, would have little impact on the overall results but could lead to a better analysis of factor structure. The six cases were therefore deleted from further analysis. The factor analysis thus proceeded with data on 32 items from 226 participants.

Factorability

To determine the factorability of this data set, the correlational matrix was examined for items that correlated with at least one other item at $R^2 = 0.30$ or higher. Twenty-eight of the 32 items met this test. In addition, other well recognized measures of factorability were employed. The Kaiser-Meyer-Olkin measure of sampling adequacy was found to be 0.741, above the recommended value of 0.6, and Bartlett's test of sphericity was found to be significant at $p < 0.001$. These three tests all suggest the sample is highly factorable and analysis continued with the initial extraction to determine the number of factors for the exploratory factor analysis.

Initial Factor Extraction

Factor analytic procedures began with an initial factor extraction without specifying the number of factors to produce a scree plot.[1] Examination of the scree plot from this first extraction involved looking for the break in the slope of the line or the inflection point to determine the number of factors present in this data set. The inflection point represents the point where including additional factors does not significantly improve the variance accounted for by the factor solution. Thus, the number of factors that appear before the inflection point should provide the best fit to the data. For the 32 items tested, this analysis indicated that three factors would best account for the variance in the data set. *Figure 1* presents the scree plot from this initial extraction.

[1] A principal components extraction produced a similar scree plot suggesting 3 components. Tabachnick and Fidell (2007) point out that this similarity in the scree plots suggest a stable solution, as it appeared with various extraction techniques.

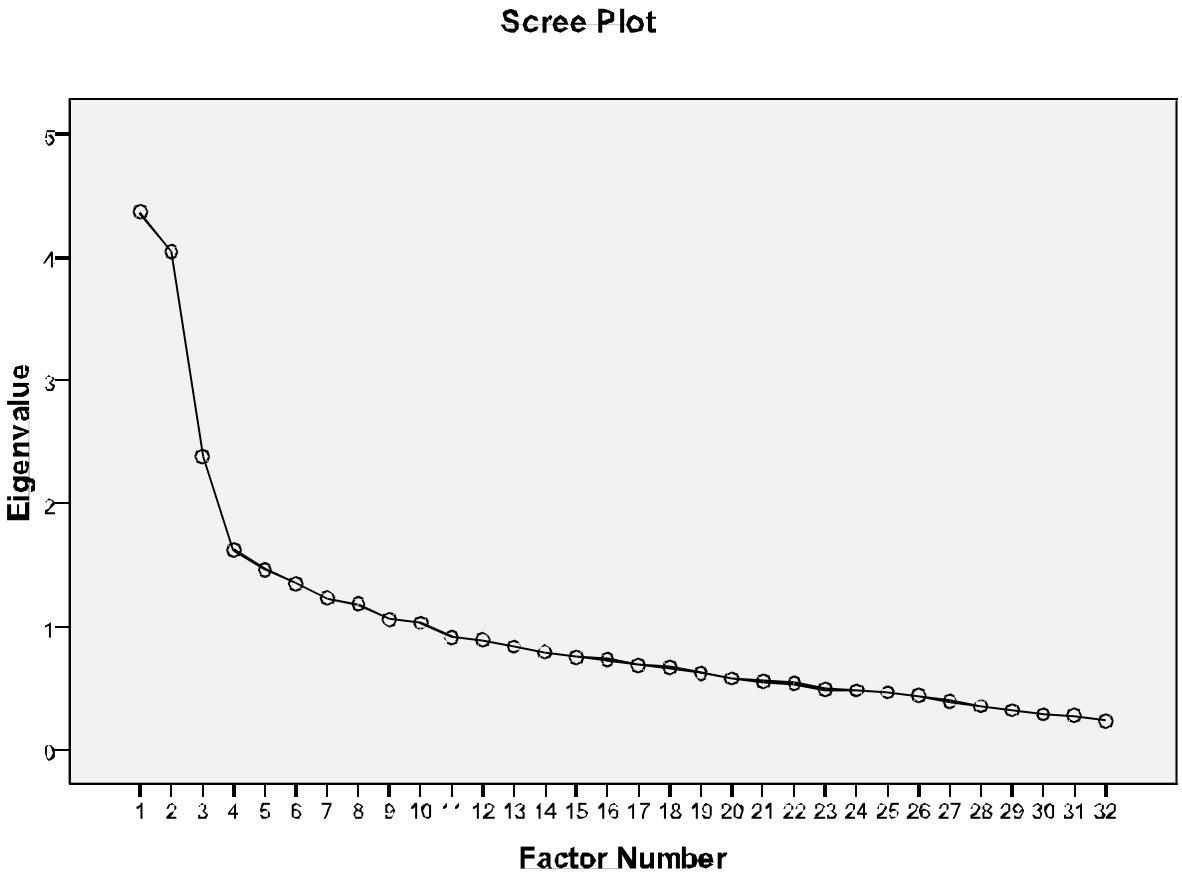

Figure 1: Scree plot for 32 SCSQ items (from initial factor extraction)

Exploratory Factor Analysis

The exploratory factor analysis continued with a 3-factor maximum likelihood extraction technique for the 32 items of the SCSQ to determine if they correlated in ways suggesting underlying factors which could better represent the pattern of participant's responses to the individual items. A maximum likelihood analysis maximizes the probability of sampling the observed correlation matrix from a population and is useful in confirming hypotheses concerning factor structure (Tabachnick & Fidell, 2007). Though

this factor analysis was exploratory, as the factor structure of these items is currently untested, there were theoretically derived hypotheses about the expected pattern of correlations. Specifically, it was hypothesized that the analysis would suggest a structure interpretable in terms of the two styles of reasoning proposed by Chandler et al. (2003). If the evidence supports the hypothesis, confirmatory factor analysis with different samples would be the next step in validation of this measure and these analyses would need to replicate the extraction technique employed in the present study. Based on this reasoning, the maximum likelihood technique was the most appropriate for the purpose of this study.

This analysis also used an oblique, promax rotation to improve the interpretability of the factor solution. Oblique rotation is often useful if a correlation between the factors is likely or unknown (Tabachnick & Fidell, 2007). In this technique, the pattern matrix presents the unique correlations between variables and factors after the correlations among the factors are removed with the factor correlation matrix. In the case of the SCSQ, an oblique rotation was appropriate because there were no hypotheses about the correlation between the factors.

The 3-factor solution accounted for 27.68% of the variance in scores from the 32 items. The first factor accounted for 11.91% of the variance, the second factor accounted for 10.61% of the variance, and the third factor accounted for 5.17% of the variance. Interpretation of the three factors began by examining the specific items that loaded on each factor with a coefficient of at least 0.30 in the pattern matrix found through the oblique rotation. *Table 2* presents these factor loadings in descending order for each factor (item loadings at less than 0.30 are not listed). As can be seen from this table, nine items loaded on Factor 1 at above 0.30 and of these nine; five had coefficients of 0.60 or

higher. For factor 2, thirteen items loaded at 0.30 or higher and five items displayed coefficients of 0.50 or higher. Factor 3 had the smallest number of items loading at 0.3 or higher with five positive loadings and one negative loading. In addition, Factor 3 displayed some significant cross-loading with items 13 and 39. Specifically item 39 positively loaded on both second and third factor at above 0.30 and item 13 positively loaded on factor 2 and negatively loaded on factor 3 at above 0.30. In addition, six items did not load on any of the three factors using a 0.30 cut-off. Analysis proceeded by examining the communalities for each item, which represent the variability in the item scores accounted for by the factors. Item communalities showed that in comparison to most of the others items, the six poorly loading items did not share much variance in the 3-factor solution and this could account for their failure to load on any of the factors. Table 3 presents the communalities for all 32 items in this solution before and after extraction.

Table 2:

Pattern matrix factor loadings for 32 items in the 3-factor solution with a promax rotation.

SCSQ Items	Loadings Factor 1	Loadings factor 2	Loadings Factor 3
33	.716	-	-
36	.653	-	-
32	.649	-	-
28	.633	-	-
27	.624	-	-
30	.582	-	-
15	.565	-	-
5	.538	-	-
23	.310	-	-
21	-	-	-
3	-	-	-
9	-	-	-
26	-	.573	-
40	-	.563	-
29	-	.534	-
18	-	.524	-
11	-	.505	-
35	-	.492	-
39	-	.482	.334
10	-	.436	-
19	-	.409	-
12	-	.395	-
13	-	.381	-.306
25	-	.324	-
14	-	.313	-
34	-	-	-
7	-	-	-
31	-	-	-
24	-	-	.649
20	-	-	.618
17	-	-	.573
37	-	-	.520

*Loadings below 0.3 not listed

Table 3:

Communalities for 32 items in the 3-factor solution before and after extraction

SCSQ Items	Initial Communalities	Communalities After Extraction
3	.330	.111
5	.385	.293
7	.213	.115
9	.254	.072
10	.399	.207
11	.397	.260
12	.316	.210
13	.365	.218
14	.237	.132
15	.412	.330
17	.364	.326
18	.380	.310
19	.281	.193
20	.351	.374
21	.242	.108
23	.226	.116
24	.443	.405
25	.309	.157
26	.407	.336
27	.496	.404
28	.509	.408
29	.469	.376
30	.406	.324
31	.259	.145
32	.487	.503
33	.505	.499
34	.293	.084
35	.484	.314
36	.497	.415
37	.371	.330
39	.500	.425
40	.450	.359

Factor interpretation and naming proceeded with examination of the pattern matrix (*Table 2*), which displays the items that loaded most strongly on each of the factors. *Table 4* presents the three factors with their associated items written out in order

of loading strength. As can be seen in *Table 4,* for factor 1 the highest loading item was: "Even though I may act differently I am still the same" with a loading of 0.716. The second highest loading item was: "The underlying parts of myself that make me truly me do not change" at 0.653. This was followed by 3 more items that all loaded at above 0.6 on factor 1: "My true self has remained the same" (0.649); "It seems like people change as they grow up and learn more about themselves, but they are not really changing who they are" (0.633), and; "It may seem like I've changed but I really haven't" (0.624). Three additional items loaded on Factor 1 at above 0.5: "Other people may think I am a different person, but I am not" (0.582); "Though I may seem different I always have the same (soul, underlying personality)" (0.565) and "Although the ways I express myself are sometimes different, deep down I am always the same person" (0.538). The final item loading on factor 1 at above 0.3 was "When I acted differently that was not my true self" (0.310).

Table 4:

3-factor solution for 32 SCSQ items

Factor 1: *Essentialist- apparent change, underlying similarity*
Even though I may act differently I'm still the same (.716)
The underlying parts of myself that make me truly me do not change (.653)
My true self has remained the same (.649)
It seems like people change as they grow up and learn more about themselves, but they are not really changing who they are (.633)
It may seem like I've changed but I really haven't (.624)
Other people may think I am a different person, but I am not (.582)
Though I may seem different, I always have the same (soul, underlying personality) (.565)
Although the ways I express myself are sometimes different, deep down I am always the same person (.538)
When I acted differently that was not my true self (.310)
Factor 2: *Narrativist- constant change, explanatory plot*
My life is about understanding my transformation (.573)
Who I take myself to be may be different again at another time (.563)
My life has been a series of changes (.534)
I have seen who I am differently at different points in life (.524)
I am always rewriting my story throughout life (.505)
The stories of my life are my interpretation of who I am (.492)
Who I am is reflected in the story of my life (.482) *(.334)
I am always figuring out who I am (.436)
I can reinterpret who I was based on who I am now (.409)
I am the one moving through my life story (.395)
I am the same, but I can wear different masks at different times (.381) *(-.306)
I interpret who I am differently based on what I have learned (.324)
I can always reinterpret how I've changed through my experiences (.313)
Factor 3: *Unnamed*
What I do is who I am (.649)
Circumstances may change, but it is still my actions that demonstrate who I am (.618)
My different actions describe who I am (.573)
Who I am comes out of the way I have acted throughout my life (.520)

* Reflects an item cross-loading factor 3

Based on the pattern of item loadings, factor 1 is clearly interpretable given the similarity of the content of the items to the reasoning styles described by Chandler et al. (2003). More specifically, these items all reflect the idea that *apparent* change can be downplayed or negated in favour of more enduring, or central aspects of the self. For

example, the highest loading item ("Even though I may act differently I am still the same") pits surface differences (actions) against an unchanging core. This continues with the second and third highest loading items which similarly focus on aspects of the self that stay the same in—those "*underlying parts of myself that make me truly me"* or that represent "*my true self."* These items all discount change in favour of sameness and find continuity within a hierarchical self-structure where the core—the genuine or authentic self—remains unaffected beneath a shifting, but inconsequential surface.

The ideas reflected in these items seem very similar to what Chandler et al. (2003) have called the "essentialist" style of reasoning derived from the self-continuity interview. In fact, the statements loading on this factor were all developed to reflect this essentialist reasoning style. In terms of the level of complexity of reasoning within the essentialist style, all the items loading on factor 1 were intended to tap levels 2 to 4. Within the set of items that survived the screening process, four items targeted level 4 and three items targeted level 2 reasoning. Based on these similarities, factor 1 was interpreted as clearly reflecting aspects of the essentialist reasoning style and given the name "Essentialist: apparent change, underlying similarity," as shown in *Table 4*.

Interpretation of the items loading on the second factor proceeded in the same way beginning with an inspection of the highest loading items on factor 2. Though factor 2 had lower overall loadings (relative to factor 1), a higher number of items loaded this factor. The highest loading item on factor 2 was: "My life is about understanding my transformation" at 0.573; four more items loading above 0.50 closely followed this. These items were "Who I take myself to be may be different again at another time" at 0.563, "My life has been a series of changes" at 0.534, "I have seen who I am differently

at different points in life" at 0.524 and "I am always rewriting my story throughout life" at 0.505. The four next highest loading items all loaded above 0.40: "The stories of my life are my interpretation of who I am" loading at 0.492, "Who I am is reflected in the story of my life" at 0.482, "I am always figuring out who I am" at 0.436 and "I can reinterpret who I was based on who I am now" at 0.409. The final four items loading on factor 2 at above 0.3 were: "I am the one moving through my life story" at 0.395, "I am the same but I can wear different masks at different times" at 0.381, "I interpret who I am differently based on what I have learned" at 0.324 and "I can always reinterpret how I've changed through my experiences" at 0.313.

As with factor 1, there are similarities in the content of the items that load on factor 2 at above 0.30. In addition, factor 2 was also interpretable based on the styles of reasoning suggested by Chandler et al. (2003), though interpretation was not as clear as with factor 1. Most of the items loading on factor 2 focus less on negating changes in life and more on accepting change as a common part of life. This interpretation is most clear in the highest loading item, where life is about understanding "*transformation"* and in the third highest loading item where life is understood as "*a series of changes."* The 2nd, 4th and 5th highest loading items, though not clearly describing life as *about* change, do seem more open to change than those loading on factor 1. In these items, the self is seen to be constantly changing and open to more change in the future. This is expressed in "*who I take myself to be"* for the 2nd highest loading item, in who they have "*seen"* themselves to be for the 4th highest loading item and in life being understood as a constantly changing "*story"* for the 5th highest loading item. The next two highest loading items focus more on the idea of a "*story"* tying together one's life, which is first an

"*interpretation"* of who they are, and second "*reflects"* who they are. The remaining items contain similar ideas about understandings of self which are constantly being "*figured out"* as well as "*interpretations"* and "*reinterpretations"* of experience—interpretations which change based on who they have been. Most also involve continuity being found as one "*moves"* along in the "*story"* of their life.

The similarities between items loading on factor 2 with the typology reported by Chandler et al. (2003) include one exception. Of all the items that load on Factor 2, item 13 is the most difficult to interpret. This item focuses on the idea of sameness, which differs from the rest of the items, but it does include the notion of a somewhat multifaceted self, expressed as different *"masks*."

With the exception of this single item, all the items loading on factor 2 focus more on change as a necessary part of life and in any explanation of self-continuity and less on a search for sameness. The strongest ideas coming through seem to be that continuity is not to be found in some aspect of self that resists change, but rather in those meaningful ways in which change can contribute to self-understanding. Often the items envision change as a routine part of life that must be explained in terms of a life transformation, or based on a plot being discovered, constructed, or interpreted. Within the remaining items, it is not so much a plot through time that is the focus, but the continual revision of the meaning of the self.

In general, the items loading on factor 2 match the narrativist style of reasoning described by Chandler et al. (2003). Most of the items (8 out of 13) were designed to reflect the "narrativist" style of reasoning which is described as focusing on tying together the changes in life with some sort of explanatory plot. Of the five items

developed to reflect the essentialist style—items not expected to load on this factor—four were designed to tap the fifth and highest level of essentialist reasoning. Chandler and colleagues describe reasoning at Level 5 as the most difficult to score for overall style of reasoning because they are the most open to the concept of change.

In the current study, the most difficult item to interpret was designed to reflect the second level of complexity for the essentialist style ("I am the same, but I can wear different masks at different times"). Though this item focuses on sameness, narrativists may interpret this item differently than essentialists. The item focuses on the idea of wearing *different masks at different times*. With this focus, time plays a central role, which is common to many of the narrativist items. In addition, this item was a relatively low loading at 0.381, and thus did not seem to be especially important in defining the overall factor structure. Based on this interpretation, factor 2 was named "Narrativist: constant change, explanatory plot*"* (see *Table 4)*.

Factor 3 had just five items positively loading above 0.30. In addition, one item negatively loaded on this factor. Though most of the items loading on this factor seemed easily interpretable, the two cross-loadings made this factor more problematic. The highest loading item on Factor 3 was: "What I do is who I am" at 0.649, followed by "Circumstances may change but it is still my actions that demonstrate who I am" at 0.618, "My different actions describe who I am" at 0.573, and "Who I am comes out of the way I have acted throughout my life" at 0.520. The first cross-loading was the item, "Who I am is reflected in the story of my life," which positively loaded on factor 3 at 0.334 and positively loaded on factor 2. The other cross-loading was the item, "I am the same, but I can wear different masks at different times," which negatively loaded on

factor 3 at -0.306 and positively loaded on factor 2. The highest loading items on this factor all seem to reflect the idea that the self is found through the *actions* in one's life. The positive cross-loading ties this idea to the notion of a *story* of one's life. The negative cross-loading however, is more difficult to interpret, as it suggests that the idea of *different masks* somehow opposes defining the self in terms of action. It could be that this loading reflects the idea that when the self is defined by action, masks cannot hide the true self.

Though these high loadings are partially interpretable, the cross-loadings make factor 3 confusing from both a statistical and theoretical perspective. The items positively loading on this factor (above 0.50) were all developed to reflect Level 2 narrativist ideas, which makes sense with respect to the positive cross-loading for one item with the second "narrativist" factor. However, since the original goal of the SCSQ was to develop a set of items to distinguish between essentialist and narrativist reasoning styles, analysis continued without the items loading on this more problematic third factor. Factor 2 better represents the narrativist ideas and the cross-loading items do little to advance the goals of the study. For this reason, analysis proceeded with a second factor analysis excluding items that did not load on factors 1 and 2, and those that only loaded on factor 3.

Factor analytic techniques continued with a second factor analysis to develop a set of items with the clearest factor structure able to distinguish between factors 1 and 2 (essentialist and narrativist). This second analysis, proceeded with a maximum likelihood 2-factor extraction with a promax rotation over the 22 items loading on factors 1 and 2 at above 0.30. Examination of the scree plot (*Figure 2*) for this factor analysis confirmed a 2-factor solution.

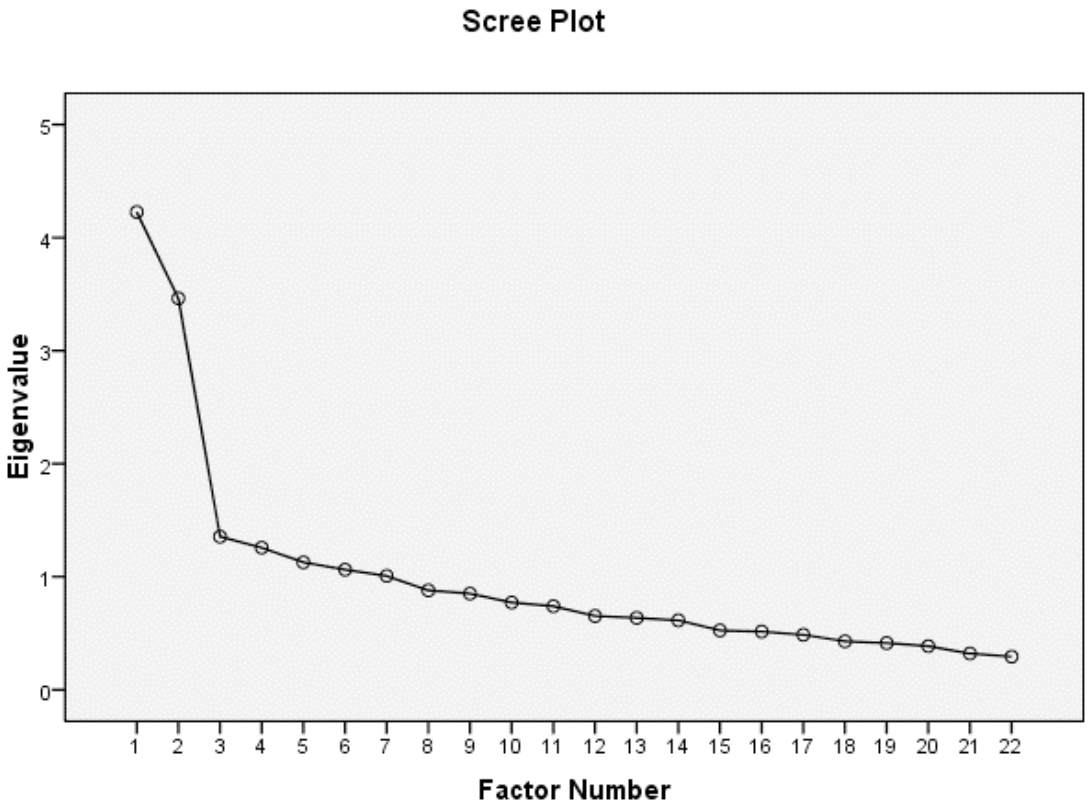

Figure 2: Scree plot for 22 SCSQ items (from second, 2-factor solution)

In this analysis, two factors accounted for 28.81% of the variance in the 22 items. Interpretation of the factors then continued by examining the loadings in the pattern matrix. In this second factor analysis, two items no longer loaded at above 0.30. For factor 1, this item was "When I acted differently that was not my true self," which was the lowest loading item in the original analysis. For factor 2, this item was "I am the same but I wear different masks at different times," which was the most problematic in interpretation of this factor. The aim of this second factor analysis was to develop a set of items with the clearest factor structure. Since these two items no longer significantly loaded on the factors and because one item had generated some problems in

interpretation, analysis proceeded to a third and final factor analysis excluding these two items.

The final 2-factor analysis used a maximum likelihood extraction over the 20 remaining items with a promax rotation to improve interpretability. The scree plot again confirmed a 2-factor structure and this solution accounted for the largest percentage of variance in comparison to the two previous solutions (30.73% of the variance across the remaining 20 items). In addition, in this solution all the 20 items loaded on one of the two factors with a coefficient of at least 0.30. Figure 3 presents the final 2-factor solution in a plot in rotated factor space, showing a clear 2-factor structure.

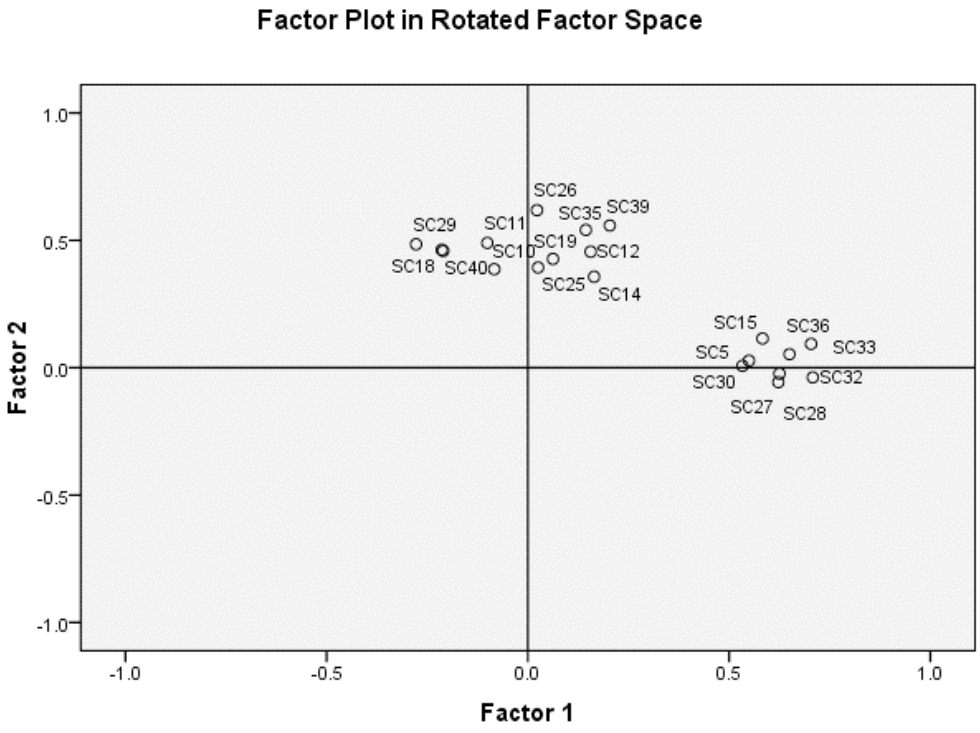

Figure 3: Final 2-factor solution plot in rotated factor space

Examination of the resulting pattern matrix determined whether the original names and interpretations fit with this final 2-factor solution. *Table 5* presents the items

in descending order of loading coefficients for each factor. As can be seen in this table, the same items loaded on factors 1 and 2 as in the original analysis with the exception that their order of loading has slightly changed. For factor 1, this change in order was minimal in that the highest loading item changed from "Even though I may act differently I'm still the same" to "My true self has remained the same." The previous highest loading item had moved to the second highest loading in this solution. In terms of interpretation, these changes, as well as the other minor changes in the order of factor 1 loadings, seem to put ideas about an underlying or core, *true* self as slightly more prominent in this solution. The ideas represented are still highly characteristic of the essentialist style and thus the original name, *Essentialist: apparent change, underlying similarity,* was retained for factor 1 (See *Table 5*).

Table 5:

Final 2-factor solution for 20 SCSQ items

Factor 1: *Essentialist- apparent change, underlying similarity*
My true self has remained the same (.708)
Even though I may act differently I'm still the same (.704)
The underlying parts of myself that make me truly me do not change (.650)
It may seem like I've changed, but I really haven't (.625)
It seems like people change as the grow up and learn more about themselves but they are not really changing who they are (.622)
Though I may seem different, I always have the same (soul, underlying personality) (.583)
Although the ways I express myself are sometimes different, deep down I am always the same person (.549)
Other people may think I am a different person, but I am not (.533)

Factor 2: *Narrativist- constant change, explanatory plot*
My life is about understanding my transformation (.619)
Who I am is reflected in the story of my life (.558)
The stories of my life are my interpretation of who I am (.541)
I am always rewriting my story throughout life (.490)
My life has been a series of changes (.485)
I have seen who I am differently at different points in life (.463)
Who I take myself to be may be different again at another time (.458)
I am the one moving through my life story (.455)
I can reinterpret who I was based on who I am now (.427)
I interpret who I am differently based on what I have learned 0.393)
I am always figuring out who I am (.387)
I can always reinterpret how I've changed through my experiences (.357)

The final factor analysis resulted in more movement in the order of the item loadings for factor 2. Fortunately, this movement led to a more straight forward interpretation for this factor. The content of the highest loading items are more clearly similar to what Chandler et al. (2003) have suggested is characteristic of the narrativist style. Indeed, the 4 items created to reflect Level 5 essentialist ideas, interpreted to be similar in terms of an acceptance of change, still load significantly on factor 2, but in

terms of their order, they seem less characteristic of the factor in this solution. Despite these differences, all the items were still similar in their acceptance of change as part of life and most focus on tying together these changes with some sort of explanation. For these reasons, the original name for factor 2 (N*arrativist: constant change, explanatory plot)* was retained in this solution as shown in *Table 5*. Based on these two interpretations, it is suggested that the 20 items used in this final solution could be useful in distinguishing between either essentialist or narrativist styles of reasoning about self-continuity.

To assess the reliability of this 2-factor solution in terms of internal consistency analysis proceeded by determining Cronbach's Alpha values over the set of items composing each factor. This analysis showed factor 1, the "essentialist" factor, to be very consistent with an Alpha value of 0.833 over the 8 items composing this factor. factor 2, the "narrativist" factor, was internally consistent with an Alpha value of 0.770 over the 12 items composing this factor. Though the alpha value for factor 2 is not as high, it is above the recommended value of 0.70. This analysis provides evidence that these two scales, identified from a factor analysis of the SCSQ, are internally consistent in their measure of a single unidimensional construct. For each set of items, the evidence suggests these constructs to be one of the two styles of reasoning about self-continuity, essentialist, or narrativist.

Analysis for Convergent Validity

In addition to examining the factor structure of the 20 items contained in the final solution, this project also included the analysis of a subset of participant's factor scores (determined both through the final factor analysis and a summing of scores over the 20

items differentiated into factors) and their rating on the original self-continuity interview. This analysis proceeded to gather evidence for the convergent validity of the SCSQ relative to the standard interview procedure as a measure of self-continuity reasoning style. As an initial test for convergent validity, 34 of the study participants were administered the self-continuity interview of Chandler et al. (2003) in addition to the SCSQ. Coding of the interviews for reasoning style proceeded through the standard methodology used in the self-continuity interview. The main researcher coded the participants as either essentialist or narrativist prior the any factor analytic techniques to avoid bias in the coding process.

As expected based on previous research with undergraduate populations (Brandstätter & Lalonde, 2006) the essentialist style was more common among the participants in this study. In the end, coding suggested that 26 out of 34 participants interviewed preferred the essentialist style. Though this preponderance of essentialists was predicted at the outset, there were still eight participants found to use the narrativist style. Any attempt to analyze the convergent validity of these measures is therefore limited not only by the small sample size, but also by this background difference in incidence rate.

Setting these sampling considerations aside, the interview data identified participants as either essentialist or narrativist. Independent samples *t*-tests compared the means of factor scores (both as *B* weights produced by the factor analysis and as summed scores over the items composing each factor) for these two groups. *Table 6* displays the descriptive statistics of the factor scores by both the estimation strategies separated for essentialists and narrativists. As can be seen from this table, the pairwise exclusion

technique for missing values reduced the total participants in some of the analyses to 32 (25 Essentialists and 7 Narrativists). The first analysis involved the use of factor scores produced by SPSS for the final 2-factor solution over 20 items. These scores were produced using the regression methodology and reflect *B* weights for each individual on each of the two factors.

Independent samples *t*-tests examined whether the mean of these factor scores differed significantly between participants coded as essentialists and narrativists. The results of these *t*-tests were in the predicted direction. For factor 1 (the "essentialist" factor) the mean factor score for the participant's rated as essentialists in the interview was 0.211, higher than the mean factor score for participants rated as narrativists in the interview at -0.754. Despite the difference in sample size, standardizing the mean difference revealed a large effect size, $d = 1.14$, Levene's test for equality of variances was non-significant, $F = 0.010$, $p = 0.920$, and there was a significant difference in the means, $t(30) = 2.676$, $p < 0.05$.

Scores on factor 2 (the narrativist factor) were also in the predicted direction: the mean factor score for essentialists was 0.027, much lower than the mean score for narrativists at 0.749. The effect size, though not large was still substantial, $d = 0.89$, Levene's test for equality of variance was not significant, $F = 0.003$, $p = 0.955$ and the difference in means was found to be significant, $t(30) = -2.071$, $p < 0.05$.

Table 6:

Descriptive statistics for factor scores (regression weights and summed scores) for essentialist and narrativists by interview procedure.

	Interview style score (1= essentialist 2= narrativist)	N	Mean	Standard Deviation	Standard Error Mean
Regression coefficient factor 1 score	1	25	.211	.871	.174
	2	7	-.754	.727	.275
Regression coefficient factor 2 score	1	25	-.027	.885	.177
	2	7	.748	.841	.318
Factor 1 summed score	1	25	27.60	4.46	.893
	2	7	23.00	2.77	1.05
Factor 2 summed score	1	25	42.28	6.45	1.29
	2	8	48.00	6.23	2.20

The purpose of this project was to create a more efficient measure to assess the reasoning style a person uses to understand their self-continuity. Based on this intended purpose, a second analysis proceeded where the 20 item SCSQ was scored as it could be scored in future research. This second analysis involved a comparison of the means of narrativist's and essentialist's by way of interview ratings in terms of these scores in addition to the *B* weights produced in the factor analysis. To accomplish this, participants scores on the 8 items composing the first (essentialist) factor were summed to produce an essentialist score and participant's scores the 12 items composing the second (narrativist) factor were summed to produce a narrativist score. Independent samples *t*-test's were then used to compare the groups of narrativist's and essentialist's (as identified in the interview), in terms of their means on the narrativist and essentialist scores derived from

the SCSQ. As with the *B* weights, the results of these tests were in the predicted direction. Specifically, the mean essentialist score was higher for essentialists compared to narrativists (27.6 vs. 23.0). This reflected a substantial effect size $d = 1.10$, Levene's test of equality of variances was not significant, $F = 1.05$, $p = 0.314$, and the difference between the means was found to be significant, $t(30) = 2.574$, $p < 0.05$. In addition, the mean narrativist score was higher for narrativist's compared to essentialist's (48.0 vs. 42.3). This effect size, though not as large as that of the previous test, was quite substantial $d = 0.88$. Levene's test for equality of variances was non-significant, $F = 0.005$, $p = 0.943$, and the difference in means was found to be significant, $t(31) = -2.201$, $p < 0.05$. The results suggest that the SCSQ can independently identify those judged to be essentialist or narrativist through the standard interview procedure.

These analyses are somewhat limited in terms of statistical power by the relatively small number of participants and by the disproportionately small number of narrativist's found through the interview. Power calculations suggested that the *t*-tests for the essentialist scores found through factor analysis displayed a power of 0.83 with an alpha of 0.05. The *t*-tests for summed essentialist score displayed a similar power of 0.81 with an alpha of 0.05. Both the *t*-tests for narrativist scores (through factor analysis and the summed method) displayed less power than those for the essentialist score. With an alpha at 0.05, *t*-tests for the narrativist scores produced through factor analysis displayed a power of 0.65 and *t*-tests for the summed narrativist score displayed a power of 0.69. These calculations suggest a cautious interpretation of these *t*-test results, especially with the narrativist scores. However, despite these limitations in terms of power, these

results—all in predicted directions—do suggest some initial evidence of convergence between the 20-item SCSQ and the self-continuity interview within this population.

Interview Excerpts

In addition to the quantitative analyses reported above, coding the interviews also involved qualitative methodology. When analyzing interview-based data, it is often useful to include portions of the interview transcript in the results to make the case for the researcher's interpretation of the data. Because Chandler et al. (2003) provide the only other source for published excerpts from the self-continuity interview; it might be instructive to present examples from the current study of excerpts from transcripts coded as both essentialist and narrativist.

As has been reported by Chandler et al. (2003) in interviews about self-continuity, participants will sometimes make statements that do not match their overall rated style. That is, statements that might be coded as "narrativist" are sometimes found in the transcript of someone given an overall rating of essentialist (and vice versa). It does not seem to be the case that participants use essentialist or narrativist styles exclusively. The job of the coder then is to determine which of the two styles seems to be more prevalent or preferred. This sometimes turns out to be the style the participant has seemingly settled on after expressing ideas reflective of both styles. To better illustrate the distinction and to offer some insight into the coding process the following section will present excerpts first from the transcript of a participant coded as narrativist, and then from the transcript of a participant coded as essentialist.

This first excerpt presented is from a participant coded to use the narrativist style:

> It's just like um, well, with the same person moving through my life it's, you know, when I was younger…um…you know, I haven't, I didn't experience a

> whole lot so…based on, and my given situation, based on my given situation and because of that fact that, you know, I was young, I didn't really know a whole lot about the world. Um, I was scared about, you know, certain things. I wasn't, I guess uh…personally developed, as I could have been, because I didn't go through those experiences. And, you know, now that I've, I've gone through certain things, and I've experienced certain things in my life. It's, it really, it added to, the development of my personality, just my characteristics and just how I see things. And I say that it's the same person, because even now, like, when I get older, I could change, I could become a whole different person depending on, what a, what events impact my life. Um…and…yeah, that's, that's the best way I can think about it, it's really like one person moving along, and depending on what, what they kind of, get experienced, or get exposed to. And how they react to those exposures, is really dependant on…or really kind of create, their whole, their whole idea, or perspective, or how the world works or, what a, what's going around, or what's going on in their life.

This excerpt came in the final section of the interview when the participant describes how it is that he or she is still the same person. This is after first describing the changes he or she has experienced in life. An important consideration in determining the narrativist style preference is how the person deals with change in his or her life. In this example, change is not presented as something to be argued against, as is prevalent in the essentialist style. Here, the emphasis is being placed on incorporating changes into cause-and-effect sequences where certain events or experiences lead to certain changes.

In addition, reading over the excerpt gives a sense that these changes and the meaning the participant takes from them, may happen all over again when the participant states that he or she could "become a whole different person depending on, what a, what events impact my life." There does not seem to be a clear enduring self underlying these changes, but instead a constantly changing self, where continuity is found as explanations are given and meaning is interpreted or construed from how the participant "moved along" through the various points and events in life. In further evidence of convergence of the SCSQ and the interview, this participant scored 50 out of a maximum of 60 over

the 12 items composing the narrativist summed score. As can be seen in *Table 6*, this score was higher than the mean for both groups. The high narrativist score for this participant can be compared to a summed essentialist score of 20 out of a maximum of 40 over the 8 items composing this score, which is lower than the mean for both groups (see *table 6*).

In comparison to this narrativist approach, this second excerpt comes from a participant coded as employing the essentialist style:

> Um, there is an underlying, there is an underlying similarity. I don't know whether it's a, whether it's necessarily a belief system, or…a feeling. Or, I don't know exactly what it is, but…there's some, it's funny, I obviously see the connection, I couldn't tell it in the story because there wasn't enough background information. But in my life, there's something of continuity, and I don't know what that is, there's some level of personality that I believe is still the same, and all other things have changed. But that very, very core was there at [age] ten, it's still there now. I'm not sure exactly what it is, like if it's just beliefs, or, or something. But something about personality is the same.

This except again comes from the point in the interview where the participant is describing how he or she is the same person after describing various changes in his or her life. The difference is clear from the beginning of the excerpt where the participant starts by looking for similarity, or sameness within their life. This search for sameness is very common for people using the essentialist style and through the rest of the excerpt; this sameness or similarity seems to be equated with continuity. This is put quite well when the participant says "there's something of a continuity, and I don't know what that is, there's some level of personality that I believe is still the same."

Another aspect of this excerpt which is particularly clear, is the participant's use of the idea of levels in their personality or hierarchical organization, which can be seen with the use of ideas about an "underlying personality" and a "core self." This kind of

hierarchically organized self is quite common in essentialist descriptions as it seems to allow for change in more superficial aspects of the self but is followed by a search for continuity in that which is the "core" of who they and remains unchanging. The focus then is on what is enduring in terms of selfhood as opposed to making the changes in life through time meaningful, as in the narrativist reasoning. This participant was found to score 28 out of a possible 40 on the 8 items composing the summed essentialist factor which was a bit higher than the mean for participants in the essentialist group and higher than the mean for the narrativist group (see *Table 6*). This is compared to a score of 42 out of a possible 60 on 12 items composing the summed narrativist factor which was again close to the mean for the essentialist group and lower than the mean for the narrativist group (see *Table 6*).

Chapter 5: Discussion

An understanding of self-continuity is an important part of a developing identity and self-understanding. The purpose of this study was to develop a set of Likert-scaled items for a questionnaire (the SCSQ) which distinguishes "essentialist" from "narrativist" forms of reasoning about self-continuity. In addition, it was argued that different folk psychologies, or ethnotheories (Bruner, 1990, Lillard, 1998, Nelson, 2007, Wang, 2006) present in the cultural environment can influence the sort of self-understandings that individuals construct. This contextualist argument was then employed to explain the prevalence of one style of reasoning over the other within particular cultural backgrounds. In addition, these styles of reasoning can be be related to other variables of psychological interest (Chandler et al., 2003; Brandstätter & Lalonde, 2006) and it was argued that both practical or therapeutic benefits could accrue from a more efficient method of determining the style with which a person reasons about self-continuity. These last two points speak to the usefulness of creating the SCSQ as more efficient measure of self-continuity reasoning style.

The main results of this study confirm the stated hypotheses concerning the factor structure of the SCSQ. Specifically, 20 of the 40 items developed to assess the style of reasoning displayed a clear 2-factor structure. Eight of the SCSQ items loaded significantly on the first factor and 12 items loaded significantly on the second factor. The pattern of item loadings suggests that the content of the items on factor 1 was similar to aspects of the essentialist reasoning style, and the content of the items on factor 2 was similar to aspects of the narrativist reasoning style. Names were assigned to these factors based on similarity in content and aspects of each style that were most clearly represented

by the factors. Factor 1 was given the name *Essentialist: apparent change, underlying similarity,* as the strongest ideas common to the eight items, especially those that displayed the highest loading, suggested that the core aspect of who one is stays the same and that changes are merely apparent or superficial. Factor 2 was given the name *Narrativist: constant change, explanatory plot* and, in contrast to the first factor, the strongest ideas shared by items loading on this factor were that change is a common part of life and continuity is found in the various types of explanations and meanings which tie a life together.

This research accomplished two other goals. First, the fact that the factor solution resulted in two distinct and internally consistent factors, provides further evidence that two distinct styles of reasoning can be detected in responses to questions about self-continuity. This result replicates and confirms previous results based on analysis of interview transcripts. In addition, the factor names also included a description of those aspects of the reasoning style best represented in item loadings. This emphasizes the fact that certain aspects of each reasoning style are more representative of the factors than others—at least within this sample. The full set of SCSQ items were originally developed to represent all aspects of the different reasoning styles suggested by Chandler et al. (2003). The results reported here, however, suggest that for this sample of undergraduate students, some aspects of the reasoning styles are more important in distinguishing between the different styles of reasoning than others.

With the current sample, items that represented an underlying similarity in spite of more superficial change seemed to represent a core idea in the essentialist factor. Conversely, key ideas coming from items loading on the narrativist factor were that life is

constantly changing and, in order to find continuity throughout these changes, a life must be tied together and explained in some way. These ideas could represent important differences in how a self is construed by narrativists and essentialists, whereas other ideas represented in the items, such as the idea of maturity or a maturing process may be less important in distinguishing between the styles. It could also be the case, however, that these aspects are particularly important only within this particular sample, which was (as expected) predominantly essentialist. In a sample more inclusive of people from differing cultural heritages, other ideas more reflective of the narrativist style of reasoning might emerge as more important. This possibility speaks to the importance of gathering evidence on the generalizability of the factor structure of the SCSQ with more diverse samples. This sort of evidence could help to better understand important differences in how the self is construed by narrativists and essentialists.

One other interesting result involving the item loadings was the fact that, of the items developed to reflect the essentialist style of reasoning, those at the fifth level of complexity were found to load on the factor labeled narrativist as opposed to the essentialist factor. This result emphasizes the importance of an openness to change in differentiating between the essentialist and narrativist reasoning styles. Chandler et al. (2003) describe this fifth level of complexity as the most open to change and as the hardest to distinguish from the narrativist style. In a later description of essentialists as "hybridized" and narrativists as emphasizing "metamorphosis," Chandler and Proulx (2007) claim that one aspect of the narrativist style that is especially important: the idea that "real" change is permitted as opposed to dismissed. The relation between the essentialist reasoning style and Dweck's (1999) entity theory of personality, which

suggests personality is relatively set from birth and does not allow much change, supports the importance of this openness to change in distinguishing between the different ways in which a self is construed. Further work could continue to examine the importance of openness to change for the different self-continuity reasoning styles and other understandings of selfhood. One route could be in examining how narrativists and essentialists experience or distinguish between 'real' and 'apparent' change.

The other main finding of this study concerns evidence of convergence between the 2-factor SCSQ and the self-continuity interview. It was found that participants who were rated as essentialist in the interview, when compared to those rated as narrativist, displayed a significantly higher mean score on the "essentialist" factor, both in terms of scores produced through factor analysis as well as a summed score over the items composing this factor. In addition, those rated as narrativist by the interview (though there were only eight such participants) were shown to display a significantly higher mean factor score on the "narrativist" factor and a higher mean summed score over the items composing this factor than essentialists. Despite the limited statistical power of these results, a cautious interpretation of these findings suggests initial evidence for convergence of the SCSQ and the self-continuity interview.

Eudaimonic Identity Theory

The introductory section of this paper claimed that the two styles of reasoning contain ideas that are similar to theoretical work found within the literature on identity development. Specifically, the essentialist style was said to share ideas with eudaimonic identity theory (Swartz & Waterman, 2006; Waterman, 1993, 2004). According to Waterman (2004), the search for identity can be understood as a process of determining

which potential identity elements, or actively considered goals, values and beliefs, correspond to an individual's 'real' self. This perspective suggests that the goals that correspond to the real self are those for which a person is most intrinsically motivated. Waterman's (2004) work stems from Marcia's identity status tradition, but Waterman claims it differs from this perspective in that it focuses not on finding *something to do,* but on finding *someone to be*. This different focus comes from eudaimonist philosophy where "the daimon or true self refers to the potentialities of each person, the realization of which represents the greatest fulfillment of living of which one is capable" (Waterman, 2004, p. 213). The goal, from this perspective, is sorting through possible avenues of commitment and making choices about these commitments based on how much they conform to who one truly is.

There are many similarities between both the essentialist style as described by Chandler et al. (2003), the content of the eight SCSQ items loading on the "essentialist" factor, and the process of identity formation as conceptualized by Waterman (1993, 2004). The most striking similarity is that they all make mention of some sort of "true" self, be it that which is driving intrinsic motivation (Waterman) or an underlying personality or soul as mentioned in the SCSQ items. For many people then, the idea that there is some enduring aspect that makes them who they truly are is an important part of how identity is experienced.

As suggested in the literature review, these theoretical similarities could have practical implications. Waterman (2004), for example, makes note of how the eudaimonic perspective on identity could have implications for those working with adolescents who are in the process of identity formation. He specifically suggests focusing interventions

on helping people to determine which potential identity elements are the most intrinsically motivating.

Since Waterman's (2004) perspective displays many similarities with conceptualizations of self present in the essentialist style, one could speculate that the intervention possibilities suggested by those working from this perspective could be especially relevant to individuals who are more likely to think about their self continuity with an essentialist style. Research into this possibility is obviously in the very early stages, and it could be the case that the same sort of intervention techniques are also useful to those individuals more concerned with tying together the story of their life. The possibility; however, of these techniques being especially effective for essentialists does suggest further research directions in terms of differences between essentialists and narrativists in how other aspects of the self are understood. The results reported here—that the 20 item SCSQ displayed a clear 2-factor structure distinguishing between essentialist and narrativist reasoning—could be useful in further research examining what it means to think of the self in a essentialist or a narrativist way.

Theories of Narrative Identity

The other perspective on identity mentioned in the literature review comes from researchers who have been focusing on identity formation in terms of the development of a "narrative identity" or a "life story" (McAdams 2001, 2006b; McLean, Thorne & Lawrence, 2004; McLean, Pasupathi, & Pals, 2007; Pasupathi, Mansour & Brubaker, 2007). Bauer, McAdams and Pals (2008) for example, suggest that "beginning in adolescence, people fashion and internalize life stories or *narrative identities*, to integrate the reconstructed past and imagined future" (p. 82), and in this description of narrative

identity, the similarities between this perspective and the "narrativist" style of reasoning are clearly apparent.

Work from the narrative perspective on identity has progressed in many directions in recent years (McAdams, 1985). For those working in developmental psychology, the focus has often been on the beginnings of a life story in adolescence (Habermas & Bluck, 2000; Thorne, Mclean & Lawrence, 2004). Here researchers have examined the processes by which individuals make autobiographical events meaningful by incorporating them into a larger, evolving story of their life. According to these researchers, identity development is often thought of as a self-reflective process where people form links between new experiences and those of their past, leading to increased complexity in their meaning-making and greater coherence in the life story. This more complex meaning-making and greater coherence in the life story has then been associated with greater psychological well-being (McAdams, 2006b).

As with the eudaimonistic perspective, conceptualizing the process of identity formation as the construction of an evolving life story has led to suggestions for interventions and therapeutic techniques in the form of narrative therapy. Lieblich, McAdams and Josselson (2004), for example, suggest narrative therapy as "a process of developing a narrative that brings integration and some degree of coherence to a persons life" (p. 4). This form of therapy puts less emphasis on finding those commitments for which one is intrinsically motivated—as Waterman (2004) suggests—and instead attempts to work with individuals to explore new and other ways in which they can make their experiences in life meaningful. McLeod (2004) conceptualizes forms of therapy that give the narrative process a central role as post-psychological and contrasts them with

what he calls more psychological theories that focus on the person looking inward. According to McLeod (2004), these narrative forms conceptualize the therapeutic process as "an outer journey into the language and symbols of a culture, rather than an inner journey into one's true self" (p. 13). The focus from this therapeutic perspective is on making experiences meaningful within a cultural world as opposed to a focus on the development and expression of an inner self.

Again, there could be practical implications stemming from this theoretical similarity. Since the content of the "narrativist" items and Chandler et al.'s (2004) description of the narrativist style of reasoning express similar ideas on how the process of identity formation is conceptualized within the narrative perspective, it could be that therapeutic techniques suggested from this perspective are especially relevant to individuals who conceptualize their self-continuity in a "narrativist" manner. If a person finds continuity through a more relational process of creating meaning by tying together the experiences of his or her life, it could be that interventions that explore other ways to find meaning in the story of one's life would be especially useful and familiar to these more narrativist individuals. In support of this possibility, Brandstätter and Lalonde (2006) report that when narrativists' personal projects included a larger focus on identity and belongingness to their culture, this was associated with higher positive affect and lower negative affect for these individuals. McLeod (2004) suggests that narrative therapies include more of a focus on how the individual becomes integrated into his or her cultural surroundings. Based on these similarities then narrative therapies could be relevant for people thinking about the continuity of their selfhood in a narrativist way where cultural belongingness seems especially important.

Though it is possible and likely that both essentialists and narrativists could benefit from either form of intervention, the similarities between the different ways in which the self is constructed and these different forms of therapeutic intervention are intriguing. As with the description of the eudaimonistic perspective, more empirical work is necessary to tie together the narrative identity perspective and the narrativist style of reasoning about self-continuity. These similarities, however, do open up possibilities for future research examining what it means to conceptualize self-continuity in a narrativist or essentialist way, both in terms of how these styles of reasoning about self-continuity are related to other aspects of self-understanding and in terms of the benefits of different approaches to intervention. The results reported regarding the SCSQ's ability to distinguish between the essentialist and narrativist styles of reasoning could be very useful in moving down some of these suggested paths in future research.

Another interpretation of the meaning of these differing styles of reasoning involves thinking of the "life story" or "narrative" approach as a way of examining how events in life are made meaningful. Researchers from the perspective of narrative psychology have often been involved in examining the themes that people use to make sense of their lives (McAdams, 2006b). Another way of interpreting the different forms of reasoning about self-continuity could be that these forms of reasoning are related to different ways in which subsequent experiences in life are made meaningful within an unfolding "life story." In taking this perspective though, one must be careful to heed Chandler, Lalonde and Teucher's (2004) cautionary remark not to push the metaphor of narrative too far so that it equates with selfhood. Indeed, they suggest that much of what essentialists say in the self-continuity interview, though it unfolds in time, and contains

"episodes," may not deserve the label "narrative." In the current project, those rated as more essentialist on the SCSQ are less likely to highly endorse of items that portray life as "a story."

It is possible, however, that the telling of a life story could be understood as just one of many perspectives from which to view the process of identity formation. When thought of in this way, it is conceivable that the essentialist self-continuity reasoning style could relate to, or reflect, a particular form of a life story, one that outlines the development, expression, and continuity of an underlying true self.

Within the narrative approach to identity formation, many emphasize how the stories we tell about our own lives draw upon culturally-specific forms of narrative (Fivush & Nelson, 2004; McAdams, 2001, 2006a, 2006b; McLeod, 2004; Pasupathi, Mansour & Brubaker, 2007). Something about the dominant narratives of particular cultures may prompt adolescents to prefer one form of reasoning over another. Indeed, McAdams' (2006a) story of the redemptive self, which he suggests is a particularly American story of the "good life," contains aspects that resonate with the essentialist style. McAdams argues that these redemptive stories often contain the idea of a "good inner self" which becomes expressed later in life and this idea is very reminiscent of the underlying, true self in the essentialist reasoning style.

The possibilities arising from this way of thinking about the narrative approach in psychology suggests the need for more research into the use of life stories as meaning making devices by those reasoning about self-continuity in an essentialist way. In addition, future research could examine how an essentialist's way of telling the story of his or her life may differ from someone reasoning about self-continuity already in a more

narrativist way. The measure developed here could be useful in future research examining how these different styles of reasoning are involved in the ways in which a person makes the experiences in their life meaningful.

Other Conceptions of Self-Continuity

As noted above, other researchers have examined conceptions of self-continuity. It would thus seem necessary to distinguish the SCSQ and its measurement possibilities from this ongoing work. In particular, Dunkel (2005) has conceptualized self-continuity as the degree to which people rate characteristics of themselves as the same in different contexts. According to Dunkel (2005), this form of self-continuity assesses the degree to which individuals think of themselves as the same and continuous from place to place, from person to person and from time to time. He ties this way of thinking about self-continuity to identity formation based on Marcia's status model and presents evidence that those who have a sense of their identity (both achieved or foreclosed) are more likely to see themselves as continuous with use of his measure of self-continuity.

As stated in the literature review, the construct of the style of reasoning about self-continuity is operationalized differently than self-continuity in Dunkel's (2005) work. The SCSQ attempts to assess the style of reasoning individuals use to understand how they are in fact the same even though they have changed, rather than the degree to which they see themselves as the same. Nonetheless, it could be interesting to see how scores on the measure of self-continuity as proposed by Dunkel (2005) relate to a person's style of reasoning as assessed by the SCSQ. It could be the case that narrativists and essentialists are differently likely to rate their characteristics as the same, across time, place and people. This again speaks to the usefulness of the SCSQ as an efficient measure

of variability in a person's style of reasoning about self-continuity and as a tool for future research.

Other recent work has involved a Likert-style questionnaire approach in measuring whether people see the self as continuous or as discontinuous. Bruce-Santo, Martin-Storey, Recchia and Bukowski (2008) report that variables measuring self-continuity and self-discontinuity moderate the relation between peer victimization and depression. They found that self-discontinuity positively predicted the association between victimization and depression. These results suggest that peer victimization is more strongly associated with depression for people rating the self as more discontinuous. Conversely, self-continuity negatively predicted the association between victimization and depression. Peer victimization was less strongly associated with depression for people rating the self as more continuous. In this work, the researchers measured self-continuity by an endorsement of Likert-scaled items such as "I am the same, I just change the way I show it" and they measured self-discontinuity with items such as "Over time, I don't stay the same person."

This work suggests some interesting relations depending on whether or not participants see themselves as continuous. The construct measured in this work is, however, quite different from the construct being discussed in this project. Bruce-Santo et al. (2008) have chosen to focus on whether or not the self is seen as continuous. Their construct is more similar to Dunkel's (2005) measure than to the SCSQ. The focus of the SCSQ is not on whether or not the self is seen as continuous, but is instead on the style with which a person reasons about continuity. In this way, the SCSQ measures differences in the way individuals construe or construct this aspect of their selfhood.

The differences in reasoning captured by the SCSQ are more similar to Dweck's (1999) implicit theories of personality. The work by Bruce-Santo et al. (2008), however, does point toward interesting avenues for research into whether essentialists and narrativists differ in their measures of self-continuity or discontinuity. Though the data reported by Chandler et al. (2003) might suggest that there would be little difference as both the essentialist and narrativist strategies are ways of thinking about how the self is continuous, no research to date has examined endorsement of items about continuity *vs.* discontinuity by essentialists and narrativists. Such speculation aside, the work of Bruce-Santo et al. (2008) speaks to the utility of Likert-style measures in assessing these constructs of self-understanding.

Limitations

So far, this discussion has ventured in various theoretical directions with the purpose of conceptualizing the construct of a person's style of reasoning about self-continuity and delineating future paths of research for the newly created SCSQ. This discussion will now continue with a few limitations of the current study. First, and likely most importantly, are the limitations arising from the use of a university-based sample for the initial field test of the SCSQ. This sample is limited in many ways.

Two particular limitations concern the homogeneity of the sample in terms of age and demographic characteristics. When creating psychometric measures the ideal situation is to have access to a sample that is generalizable to a target population. The sample used here, however, consisting as it did of young adult university students for whom the issue of self-continuity may be especially salient, is limited in its

generalizability to populations of other age groups and more diverse cultural backgrounds.

In addition, results from factor analytic techniques apply only to the sample on which they are tested. It is possible that other, more inclusive samples, would produce a different factor structure. Despite this limitation, the clear 2-factor structure that arose with this sample is promising. Future work should take care to include participants of differing ages or cultural backgrounds and should perform confirmatory factor analysis to examine whether a similar factor structure arises with other samples.

This sort of research could be especially informative because of the cultural differences in reasoning style found with the self-continuity interview. In the present study, loadings on the narrativist factor were less strong and a little less clear than loadings on the essentialist factor and Cronbach's alpha was slightly lower across the narrativist items. It would be interesting to see how these results may be different in a sample that contains more participants who prefer the narrativist style of reasoning.

In addition, the difference in the number of participants classified as narrativists and essentialists based on the interview procedure is another limitation of the current study. The small amount of people coded as narrativist in the subsample interviewed was unfortunate, but expected on the basis of previous research. For this reason, there has been only a cautious interpretation of the initial evidence for convergence in this study. However, gathering evidence of the construct validity of a newly developed psychometric measure is a lengthy process. The clear two factor structure reported here, as well as the initial evidence of convergence can thus be seen as a promising first step in terms of providing evidence for the ability of the SCSQ to determine the style individuals use to

reason about the continuity of their selfhood. Further studies should examine convergent validity by collecting data from a larger number of participants identified as using the narrativist style of reasoning and examining their scores on the SCSQ to strengthen this evidence of convergence.

Another possible limitation of this project comes from the removal of a large amount of questions from the initial pool of items . Items were systematically removed from the SCSQ in ways meant to arrive at those that best distinguish between essentialist and narrativist reasoning styles. In creating new psychometric measures, it is often the case that some items do not work out as well as planned. , The demographics of the current study sample, however, may have contributed to the identification of problematic items. The predominance of the essentialist style of reasoning in this sample may have meant that the narrativist items were less well understood by the majority of participants. Thus, the item removal could have proceeded differently in sample that contained more individuals coded as narrativist.

Though this possibility exists, and all the 40 items could be examined with another sample in future, the 20 items which worked well in the current, if restricted sample, did display a clear two factor structure where the items loading on one or the other factor were easily interpreted as containing ideas prominent to either the narrativist or essentialist style of reasoning. For this reason, the 20 items in the final solution are likely to be the best candidates for further validation with other samples.

Conclusion

It has long been suggested by philosophers and psychologists that individuals must in some way come to understand that they are the same person throughout their life, that they have what has been called a numerical identity, or an understanding of self-continuity. It has only been recently that the discipline of psychology has taken on the task of empirically examining subjective variations in how people understand what have long been taken to be universal psychological constructs. Much of the impetus for the examination of this sort of individual and cultural variability comes from work in cultural and contextual psychology (Nelson, 2007, Wang, 2006), where the ways in which individuals experience their larger cultural context is an important a topic of investigation. It is in this theoretical tradition that the construct of an individual's self-continuity reasoning style has been situated.

The main aim of this study was to develop a more practical method to assess variability in reasoning about self-continuity. Results indicate that the SCSQ can measure variability in an individual's style of reasoning about self-continuity. The SCSQ may thus prove useful in examining some of the fine-grained distinctions in the how individuals, and individuals of differing cultural groups, understand conceptions selfhood.

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Appendix A: Original SCSQ items with style and level ratings and introductory section

Self-continuity statements by style and level rating

Essentialist Level 2 Statements

3) Different people see different sides of me depending on the situation E2.1
13) I am the same, but I can wear different masks at different times E2.2
27) It may seem like I have changed, but I really haven't E2.3
30) Other people may think I am a different person but I am not E2.4
33) Even though I may act differently I'm still the same E2.5

Essentialist Level 3 Statements

1) As I've grown up, I've become, more and more, the person I am supposed to be. E3.1
8) I acted differently as a child but I have matured since then E3.2
16) I have learned more as I have grown up E3.3
21) I'm not a different person, but as I've grown up different parts of me have come out E3.4
28) It seems like people change as they grow up and learn more about themselves, but they are not really changing who they are E3.5

Essentialist Level 4 Statements

5) Although the ways I express myself are sometimes different, deep down I am always the same person E4.1
15) Though I may seem different, I always have the same (soul, underlying personality) E4.2
23) When I acted differently that was not my true self E4.3
32) My true self has remained the same E4.4
36) The underlying parts of myself that make me truly me do not change E4.5

Essentialist Level 5 Statements

7) How I've previously seen myself and how others have seen me are all part of my current self-understanding E5.1
10) I am always figuring out who I am E5.2
18) I have seen who I am differently at different points in life E5.3
25) I interpret who I am differently based on what I have learned E5.4
40) Who I take myself to be may be different again at another time E5.5

Narrativist Level 2 Statements

17) My different actions describe who I am N2.1
20) Circumstances may change, but it is still my actions that demonstrate who I am N2.2
24) What I do is who I am N2.3
29) My life has been a series of changes N2.4
37) Who I am comes out of the way I have acted throughout my life N2.5

Narrativist Level 3 Statements

4) Changes in who I am are the result of my experiences N3.1
9) Changes in who I am are the result of fate N3.2

22) I've changed as I've matured into who I am now N3.3
34) My experiences in life have made me the way I am N3.4
38) Who I am is based on what I have experienced N3.5

Narrativist Level 4 Statements

2) The changes in my life form the plot of my life story N4.1
6) Going through the changes in my life and the mistakes I have made has allowed me to better understand who I am N4.2
12) I am the one moving through my life story N4.3
26) My life is about understanding my transformation N4.4
39) Who I am is reflected in the story of my life N4.5

Narrativist Level 5 Statements

11) I am always rewriting my story throughout life N5.1
14) I can always reinterpret how I have changed throughout my experiences N5.2
19) I can reinterpret who I was based on who I am now N5.3
31) My autobiography is my current understanding of who I am N5.4
35) The stories of my life are my interpretation of who I am N5.5

Questions presented at the beginning of the SCSQ questionnaire

The following statements reflect possible ways in which you may approach your self-continuity, that is how you are still the same individual despite the various ways in which you have changed. Our self-continuity is not always something we normally think about so to bring this issue up in your mind, I would first like you to take a few minutes and think about yourself when you were 10 years old. Describe yourself at age 10 below in the space provided:

After you have done this take a few minutes to think of yourself now. Describe yourself at this point in time below in the space provided:

Take a few minutes to read over the two descriptions you have just given, specifically looking for ways that the person you described at age 10 is different than the person you described at the present time. In other words think about ways that you have changed since you were 10 years old. Write down some of these changes below:

In looking over the former descriptions it is likely that there have been some changes in how you would describe yourself since you were 10 years old. Though these two descriptions of yourself may look different, you are obviously still the same person. Take a minute to think about how it is that you are the same person despite these changes in your life. The following statements are meant to reflect different ways in which people may approach this issue of their self-continuity, or how they are the same person despite these changes. Please rate each statement as whether it is like you or not in terms of how you would approach your self-continuity on the 5 point scale provided (Very much like me "5" to Not at all like me "1")

Appendix B: Questions for the Self-Continuity Interview

Section 1-Jean Valjean/Monsieur Madaleine

1) To start off, please describe the main story character – Jean Valjean – at the beginning of the story. Describe him the way you would to someone who hasn't heard the story.

2) Now skip over everything that happened in the story, and please describe Monsier Madeleine at the end of the story. Describe him the way you would to someone who hasn't heard the story.

3) Often as people go through changes much like Jean Valjean did before he became Monsier Madaleine, they can be described quite differently before as opposed to after these changes. Despite these changes is Jean Valjean really Monsier Madaleine? The names are different, but is there a sense that they are both the same person?
Why do you think this is the case? Explain.

4) Given all of these important changes how is it that you think Jean Valjean and Monsieur Madaleine are the same person? What specifically do you think it is that makes him the same person through the whole story? Explain.

5) Does Valjean himself think he is still the same person throughout the story? For example when he remembers the person he was at the beginning does he feel that all the things that happened in the story actually happened to the same person he had become in the end?
Why do you think this is the case? Explain.

6) If Jean Valjean himself was describing the story, how would he explain to someone else that one and the same person could act in all of the different ways he acted throughout the story? Explain.

7) Now assume you are the author of this story, and you had to write the next chapter. How would the story go from here?
Why would you have the story go in that direction?

Section 2 – Rhpisunt and Bear Woman

1) To start off, please describe the main story character – Rhpisunt – at the beginning of the story. Describe her the way you would to someone who hasn't heard the story.

2) Now skip over everything that happened in the story, and please describe Bear Woman at the end of the story. Describe her the way you would to someone who hasn't heard the story.

3) Often as people go through changes, much like Rhpisunt did before she became, Bear Woman, they can be described quite differently before as opposed to after these changes. Despite these changes is Rhpisunt really Bear Woman? The names are different, but is there a sense that they are both the same person?
Why Do you think this is the case? Explain.

4) Given all of these important changes how is it that you think Rhpisunt and Bear Woman are the same person? What specifically do you think it is that makes her the same person through the whole story? Explain.

5) Does Rhpisunt herself think she is still the same person throughout the story? For example when she remembers the person she was at the beginning does she feel that all the things that happened in the story actually happened to the same person she had become in the end?
Why do you think this is the case? Explain.

6) If Rhpisunt herself was describing the story, how would she explain to someone else that one and the same person could act in all of the different ways she acted throughout the story? Explain.

7) Now assume you are the author of this story, and you had to write the next chapter. How would the story go from here?
Why would you have the story go in that direction?

Section 3: Story Comparison (used in interview but not open-ended questionnaire)

1) The first story about Jean Valjean and the second one about Bear Woman are both about characters that change a great deal. Are the stories different in the ways that changes come about? Explain.

2) Which story do you think is a better story about personal change?
Why do you think this is the case? Please Explain

Section 4: Personal Changes

1) First take a minute to think back to a memory of yourself from 5 years ago. After you have done that, please describe the sort of person you were five years ago. Describe yourself as you would to someone who does not know you, but would like to get the know you

2) Now take a minute to think about how different you are now from the person you described 5 years ago. After you have done that please describe the sort of person you are now. Describe yourself as you would to someone who does not know you, but would like to get the know you.

3) Now take a minute to look at the two descriptions you gave about yourself. Do you feel, based on the two descriptions you have given that you have changed in some important ways? Explain.
Is there any more important personal changes that may have taken place in the last 5 years of your life?
If you haven't already described this, is there anyway in which your attitudes and beliefs have changed in the last 5 years? Explain

4) Take a moment to think about all the changes you have just described. As in the previous stories to someone other than yourself, it could seem like you are describing two different people. Obviously, however the descriptions you have given are about one person. Take a minute to think for a while and then explain in as much detail as possible why you think

of yourself now as the same person you were five years ago, throughout all these changes.

5) Now, how would you explain all the changes that have taken place in your life? For example, how is it that you have become the person you are right now?

6) Sometimes people change because something happens to them which causes them to change and sometimes people change because they make a choice to take a different path in their life and that's a conscious choice. So which one of those would represent the changes that come about in your life?
Why do you think that this is the case? Explain.