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**Interpreting Scale Items:  
Using Items on the Bem Sex Role Inventory  
to Explore Respondents' Meaning Construction**

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to Explore Respondents' Meaning Construction**

**by**

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**Dissertation**

Presented to the Faculty of the Graduate School of

The University of Texas at Austin

in Partial Fulfillment

of the Requirements

for the Degree of

**Doctor of Philosophy**

**The University of Texas at Austin**

**December 2007**

## **Dedication**

To my parents

## **Acknowledgements**

I would like to thank all my participants for their contribution to the study. I would also like to thank my advisor, Dr. Edmund Emmer, for his guidance, time, and patience, my co-advisor, Dr. Barbara Dodd, for her encouragement and support, Dr. Toni Falbo, for her interest and input, Dr. Pedro Reyes, for his willingness to serve on my committee, and Dr. Diane Schallert, for introducing me to the socio-constructive theory and her interest in my study.

I would also like to acknowledge Virginia Stockwell, for her dedicated support to the graduate students at the Department of Educational Psychology.

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Publication No. \_\_\_\_\_

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The University of Texas at Austin, 2007

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Quantitative researchers often infer the validity of a construct through some quantitative (statistical) manipulation of the numerical responses to scale or questionnaire items. The participants' meaning construction of these items, especially with affective and personality scales, are usually unexplored or assumed equivalent. The current study investigates the defensibility of such a position based on the socio-constructive view on meaning construction. The current study explored how respondents interpreted the items from the Bem Sex Role Inventory (BSRI). The instrument was chosen for its popularity, its empirically based development, and for the culturally significant issue the scale addresses. Bem also proposed a gender schema theory to account for sex related cognitive processing.

Forty participants, equally divided into male and female, undergraduate and working adult groups, completed self-ratings on the Masculinity and Femininity items from the BSRI. They performed "think aloud" on half of the items while rating themselves. They also completed a follow-up interview providing more in-depth

interpretations of scale items and their conceptualization of masculinity and femininity. The "think aloud" and the interviews were audiotape-recorded, transcribed, and analyzed. The results showed that the respondents constructed various meanings for each item. There were commonly shared meanings, less shared meanings, rare, and unique meanings. There were also misinterpretations. Participants conceptualized "being masculine" and "being feminine" in many dimensions, including physical features and personal appearance. The current study identified sex differences in meaning constructions, including the contexts in which meanings were situated. The current study also found substantial differences between the student and the adult participants' meaning constructions. The limitations of the current study and its implications for test construction are discussed.

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## **Chapter 1: Introduction**

Since the late nineteenth century, the concept and practice of measurement have gradually but persistently been incorporated into the study of practically all aspects of human activities. The movement toward and adherence to quantifying otherwise what would be verbal descriptions can easily be traced to the distinct practices and the corresponding achievement observed in the field of natural science. A significant outcome of this quantification endeavor in human research is the development and reliance on scales and questionnaires to reflect numerically some psychological phenomena.

This process of quantification typically begins with a researcher's idea or conceptualization of a psychological phenomenon. A hypothetical construct or a theory may be proposed. A measurement instrument of the construct, if it does not already exist, is then developed based on the researcher's or someone else's theory or conceptualization. The numerical responses to the scale or questionnaire items are collected. Based on the statistical analyses of the data, and the researcher's interpretation of the numerical results, the instrument may be refined. Through this process, the researcher infers the reliability and validity of the measurement. Once published, the instrument will inevitably be applied by other researchers to other situations for other research interests. Meaning constructions, in the realm of quantification, are thus in the hands (and heads) of the researchers with heavy reliance on statistical tools. Specific attention or interests in the meaning construction of the respondents, both regarding the psychological construct being measured and the scale/questionnaire items being read, have historically been ignored or rare (this is particularly evident in the area of affect or personality measurement).

In recent years, research attending to the mental or cognitive processes of the survey and scale respondents has been emerging. The attempt is mostly driven by the concerns over the consequences or ramifications of the measurement outcomes. This type of research may be grouped into two areas: high stakes testing and survey measurement. In the former, "fairness" of the measurement instrument (i.e., the standardized tests) to the test takers across racial, gender, and other groups is a typical concern. If the test measures something other than the intended purpose and reflects group differences - hence failed the "fairness" requirement, the measurement is often described as being "biased" against a certain group.

Measurement biases in high stake testing have serious political and legal consequences and have, therefore, stimulated extensive research to address the issue. Test developers often use expert panels to review test items to examine and identify test items that are potentially "unfavorable" to a given group. This may be perceived as an approximated attempt to explore the cognitive or mental processes the test takers may exercise about a certain item in a test. Various statistical tools (e.g. differential item functioning or DIF, measurement invariance from factor analysis) have also been developed and relied upon to identify items that generate different responses from different groups, presumably due to some cognitive processing differences among the groups. The statistical/quantitative approach may also be viewed as an indirect attempt to address cognitive process differences, other than what is intended to measure, of the test takers, although the reasons behind differences are often left unexplored.

Items identified to be biased are typically removed from the test. The purpose of this type of research is to achieve the desired "invariant" or equivalent testing condition for the test takers from various populations.



In recent years, as a result of the progress made in cognitive psychology, the cognitive processing of survey questionnaires, including question comprehension, has also come into the focus of some survey researchers. For instance, there was the "Cognitive Aspect of Survey Methodology" (CASM) movement that began in the early 80s and continued to gain momentum in the 90s (Sirken, Herrmann, Schechter, Schwartz, Tanur & Tourangeau, 1999). However, the primary goal of the survey researchers' newly evolved interest in cognitive theories and response processes were in the latter's utility to minimize survey errors (Lyberg, Biemer, Collins, deLeeuw, Dippo, Schwarz & Trewin, 1997; Tourangeau, Rips & Rasinski, 2000). More specifically, since survey research is typically interested in some behavioral or "factual" data of a targeted population, (e.g., how many times per week one goes to see a movie in a theater; where does one go to buy beverages that contain alcohol?) or the opinion/attitude held by a given population toward something or someone (e.g., do you think smoking should be prohibited in all public areas?), the primary goal of the survey researcher would be to minimize the gap between the obtained outcome (i.e., the data collected) and the survey objective, or the so called survey errors. It is in this interest that survey researchers turn to cognitive theories and findings, with the goal to improve the quality of survey response data. Applications were made, for instance, to enhance recall accuracy, to ensure consistent interpretation of survey questions (such as through cognitive interview), or to control other extraneous factors (e.g., order of question presentation) that may influence survey responses (Sirken et al., 1999; Tourangeau et al, 2000). From this perspective, the survey researchers' investigation of respondents' mental processes when reading a survey questionnaire was restricted to its utility to modify the instrument to generate responses more closely reflecting what the researcher started out to collect.

Whether respondents' mental construction are issues about which the researchers need to be concerned and how they should be addressed have been a longstanding debate between researchers positioned in different research paradigms. Commonly, quantitative researchers who have followed the footsteps of the positivists and empiricists have also adopted a philosophical stance that argues for a mind-independent reality. The premise behind this view is that there exists only one reality. These researchers' goal is to acquire knowledge about this reality or, in their view, to unveil the truth. The knowledge is deemed worthy only when it can pass "the" test. Strict rules and procedures are thus applied and expected of the research methods to ensure a valid outcome. This research practice has its merits as its application has sent mankind to the moon and made the theological concept "omnipresence" an attainable reality at one's finger tip - via the internet. Naturally, psychological researchers would like to accomplish the same. They began, in the early to mid 20th century, to apply the same "scientific" research standards to psychological studies, such as objectivity (i.e., observations are mind-independent), replicability (i.e., same outcome can be replicated by following the same procedures), and generalizability (i.e., outcome obtained from the sample can be generalized to the population) (Bryman, 1984; Smith, 1983). To follow the "scientific" research rigor and to obtain the kind of outcome and knowledge that are deemed worthy in the scientific research community, psychological researchers adopted the concept of variables - independent and dependent variables are defined and measured "operationally" and "decontextualized," i.e., the psychological phenomenon of interest to the researcher is isolated from its real life context. Human subjects are often treated by the researchers as passive entities to be manipulated to perform in a "neutral" or "standardized" setting. The mental processing of the subjects in the situation is not of interest to the researcher. In this sense, the human subjects in quantitative studies are voiceless.

The treatment of research participants as passive or “voiceless” objects has been criticized and rejected by qualitative researchers or the idealists who maintain that realities are the product of human minds and are, therefore, always mind-dependent, along with aspects that are connected to the mind (e.g., emotions, values). Qualitative researchers thus are committed to seeing the world through the eyes of the investigated, or to "interpretive" understanding (Bryman, 1984; Smith, 1983). In-depth engagement with the research participants is considered by qualitative researchers a necessary process to achieve the desired understanding from the participants’ perspectives. The mental processes of the participants are thus always of interest to the qualitative researchers.

The differences in philosophical commitment have led quantitative and qualitative researchers down divergent paths regarding who gets to construct meanings. While quantitative researchers rely on the use of the measurement instrument to create various variables for further statistical analyses and modeling, to understand, interpret, control, and predict certain human phenomena, the researcher-constructed-instrument is considered by the qualitative researchers to capture, if anything, only an imperfect representation.

In addition to the ontological and epistemological differences between the two paradigm approaches to human research, issues involving power differentiation within a research setting (the researcher and the researched), within a community, a society, or a culture, are also significant concerns to some qualitative researchers, whereas quantitative researchers are typically oblivious to these issues and their potential implications.

Blumer (1956) in his well-known critique of the quantitative approach to the study of human activities argued that natural science methodology reduces human phenomena to variables and their relations. This “variable analysis” approach, according to Blumer, has excluded an essential and unique human activity - the process of

interpretation, which he believed to be the core of human action. Blumer maintained that this process permeates all human activities: We interpret and assign meanings to each object, event, or situation that we encounter and we act and proceed accordingly. By being willing to deal with only the outcome variables that are the products of the process of interpretation, Blumer pointed out, quantitative researchers are presuming the effects of the independent variable(s) in some presumed neutral situations. Such presumptions are facing serious challenges as studies have demonstrated that the "subject's" or test taker's social construal or interpretation of the situation often influences their performance in the "laboratory" or on a "standardized" test (Perret-Clermont, Perret, & Bell, 1991; Siegal, 1991).

It is hard to argue that responding to a measurement instrument does not involve a certain process of interpretation. In fact, the process begins with a linguistic activity – reading (or listening) of the text. This implicates, on the respondents' part, the activity of comprehension or meaning making of the text (i.e., the questions/items), or the process of interpretation as advocated by Blumer. In other words, the numerical responses, the desirable outcome variables based on which the quantitative researchers proceeded with their understanding, theorizing, and prediction (to name a few) of human activities, are products of some mental/linguistic activities and processes that are initiated and carried out privately by the respondents. This process therefore deserves to be investigated.

Cognitive psychologists have made tremendous progress (or transformation) in their understanding of human mental functioning including text comprehension. More significantly, their evolving view on text comprehension has converged, over the years, with the perspectives from other disciplines such as cultural anthropology, language, and literacy. The current research proposal is interested in adopting the converging theoretical framework on text comprehension to investigate respondents' meaning construction of

scale items designed to measure a social-psychological construct as well as their interpretations of the construct.

## **Chapter 2: Literature Review**

The review of the literature provides a framework through which the reader may view the meaning construction of scale items as an active socio-cognitive process in which schemas, often social in nature, play an essential role. The review will begin with a summary of the transforming view of the human mind over the past few decades in the United States, followed by a brief review of the current view that our mental functioning, and thus meaning construction, is always situated in and inseparable from the social/cultural milieu in which we live. Schema theory will be presented for its contribution to text interpretation and comprehension. The Bem Sex Role Inventory (BSRI) will be introduced along with social/cultural schemas such as the gender schema. The literature review will conclude with the implications of how gender schemas may influence respondents' text interpretations such as those presented in the BSRI items.

### **TRANSFORMING VIEW OF THE HUMAN MIND**

William James once called psychology the science of the mind. Thus, the psychological studies conducted in this country over the past century could be said to provide a picture of American psychologists' views of and approaches to the human mind. Without conducting an "empirical" investigation, it is pretty safe to say, in general, that the conceptions and the treatment of the human mind have vacillated quite a bit over time: From the original holistic, philosophical pursuit of the human mind to the fragmented, self-contained, scientific investigations (which tend to avoid the concept of mind), and to the acknowledgement of an active and constructing human mind. Schallert and Martin (2003) characterized the historical movement of the psychology of learning,

or the view on mental functioning, for the past century as a transformational process, which will be summarized as follows:

### **1. The behaviorists' view**

The establishment of the “experimental” laboratory by Wundt in Leipzig, Germany in 1879 might be described as the turning point when psychologists began their fervent pursuit of the “scientific” study of the human mental functioning. For the next few decades, fragmentation of the mind (e.g., memory, motor-sensory behaviors) was inevitable, as the scientific methods demanded such manipulation. During the peak of the behaviorist movement in the mid 20<sup>th</sup> century, the predominant position of psychological researchers was that stimuli and responses are the only two necessary and sufficient elements to conduct psychological research and to explain and predict human behaviors. Everything in between was regarded as a black box, something researchers need not be concerned. The concept of the human mind was ostracized during this era.

### **2. The constructivists' view**

Heavily influenced by the concurrent development of computer technologies, early cognitive psychologists often used the way that computers work (i.e., a complex information processing system) as the metaphor for human mental functioning. This relatively mechanistic view, i.e., input-processing-output, of the functioning of the human mind, although well received in the 60s, was overshadowed by the perspectives of constructivism during the 70s and 80s. In the constructivists’ view, instead of merely passively perceiving or receiving, the individual is said to be strategically and intentionally interpreting the encountered events or situations, and to construct her/his own personal meanings. The constructivists advocated the constructing power of the individual mind and claimed that everything we "know" is personally constructed.

This perspective is not new. The agentic nature of the human mind in daily functioning was readily detectable in Freud's writing in the 19<sup>th</sup> century, who credited the ability of human mind to defend oneself when faced with unbearable ideas. The agency aspect of the mind was also reported in human cognition research. In 1932, Bartlett, based on his classic studies on human memory, i.e., reproductions of stories and drawings, also noted that his subjects' recall processes often contained attitude consistent memories, suggesting a constructive element in the human act of memorizing. He further maintained a self-justifying motive behind such construction:

Alike with the individual and the group, the past is being continually re-made, reconstructed in the interests of the present. (p.309)

Research in reading comprehension and recall of text also demonstrated how we actively integrate information, including contextual information, to achieve accurate comprehension and text recall (Bransford & Johnson, 1972). Schema theory also proposed that we construct schemas or build cognitive structures from our past experiences to help in interpreting new encounters (Anderson & Pearson, 1984; Rumelhart, 1980).

Integrating his reviews of numerous socio-cognitive studies, Greenwald (1980) also described the self as a "totalitarian ego," for its power to influence one's social perception and the organization of past experiences. Specifically, he categorized three types of cognitive biases through which the self fabricates and revises personal history. (1) Our memory is organized in relation to ourselves, or "self-focused historian;" (2) we readily perceive ourselves as the cause of desired, but not undesired, outcomes, or "self-aggrandizing historian;" and (3) we resist cognitive changes by selectively seeking information or remembering information that confirms our belief, or "self-justifying historian."



Emerging from these findings, although approached from different angles, is a consistent and coherent picture that depicts an active power of the human mind to select, extract, organize, integrate, interpret and store what was experienced, and based on which, to process and interpret new experiences and/or to take actions. The two key constructs that remained influential from this constructivists' perspective are the role of past experiences or prior knowledge and the agentic nature of human mental functioning.

### **3. The socio-constructive view**

By the mid 80s, the individualistic account of the human mental functioning was challenged by the socio-constructivists' framework. In contrast to the view of cognition as a free, sovereign individual's activity that takes place inside a person's head (which is the basic presumptions of much of cognitive research conducted in United States), the socio-constructivist view argues for an agency that "extends beyond the skin" and redefines the boundaries of agency (Wertsch, Tulviste, & Hagstrom, 1993). Simply put, this view maintains that sociocultural forces shape or constitute individuals and that the individuals' mental functioning can not be understood without consideration of the social and cultural systems in which it exists.

Socio-constructive views maintain that an individual's mental functioning originates socially. By interacting with others (e.g., parents, teachers, peers), a child learns the socially defined or culturally guided ways of thinking, speaking, acting and so on. Even as adults, an individual's mental functioning such as thinking, memory, and problem solving continues to be constantly shaped by social exchanges via various means (e.g., conversations, arguments, reading, writing, drawing, body languages) in various social context. Our cognitive processes interweave with those of others when we tell or listen to a story, ask or answer a question, inform or argue with someone, read the

newspaper or a book, watch television, write e-mails, or even by a simple expression such as shaking our heads. Our daily lives are full of examples of mental construction through social interactions.

The socio-constructive view of the human mind owes much of its perspectives to the work of the Soviet sociohistorical school of psychologists such as Vygotsky and Luria (Minick, Stone, & Forman, 1993), although the thoughts could be traced to Mead in the 30s (Mead, 1934). The two essential themes in Vygotskian's theory about human mental functioning are summarized below:

(1) The development of our mental functioning, in addition to its dependence on the biological maturation of the physical and neurological counterparts, is deeply rooted in our social lives. From the very outset, i.e., birth, we learn through interactions with others. These interactions can take place in various social relationships (e.g., caretaker-child, teacher-student, child-child) and are always further situated in social or institutional settings (Wertsch, 1991). We learn in the process of social interactions, according to Vygotsky, through the act of "appropriation" or internalizing what is encountered "socially" (in the broadest sense). Vygotsky used the terms "intrapyschological plane" and "interpsychological plane" to refer to the two psychological spaces where mental activities takes place within an individual and between individuals. Learning is a social event, according to this view, because what takes place intrapsychologically can always be traced to a precursor or precursors on the interpsychological plane. In fact, Vygotsky referred to the development of our mental functioning as "cultural development" (Wertsch, 1991).

(2) Central to and unique of Vygotsky's theoretical framework is the concept of "mediational means." Vygotsky claimed that all human activities, including developmental processes, are mediated by the use of various tools, one of which is the

psychological or cognitive tools. Psychological tools such as signs and symbols, language in particular, are mediational means because they provide a link between what is experienced on the interpsychological plane and the cognitive operations appropriated on the intrapsychological plane, i.e., they facilitate the internalization or appropriation of what was experienced socially. They are also mediational in the sense that they can change the "flow and structure" of our mental activities on the intrapsychological plane. (Perhaps this point can be understood if we think of the impact of industrial revolution and the advancement of computer technologies on the flow and structure of our daily functioning. The role language plays in the functions of memory and perception also illustrates this point.) The inclusion of the mediational tools as an integral part of the agency was also proposed by Bateson (1972) in his explanation of the ecology of human mind. Using the blind man exploring the world with a stick as an example, Bateson illustrated how the mediational tools must be taken into consideration to understand the mental functioning of the agent.

The mediational nature of language was also proposed by Whorf (1956), an authority on American Indian languages. In his concept of "linguistic relativity" (or the "Whorfian Hypothesis") he made the claim that language use constrains cognitive processes and molds our thoughts, which, in turn, accounts for the different perceptions of the world in different language communities. Although not widely supported in its strong version, his theory remains influential (Gumperz & Steven, 1996).

How human mental functioning is shaped in socioculturally specific ways through the use of language is further illustrated by Bakhtin's theory. Contemporary but independent of Vygotsky's work on human mental functioning, Bakhtin's focus on social languages complements Vygotsky's theory. Specifically, Bakhtin maintained that language use (or "utterances") is always specific to a social place within a social system

at a given time, i.e., the inevitability of speech genres (Wertsch et al., 1993). Different speech genres are easily observed in the ways we speak or write in different professions, occasions, age groups or other social strata. In our daily lives, we write or speak differently depending on the content and the circumstances or audience. Language use is thus embedded in sociocultural situations which, in turn, links the individual's mental functioning to the individuals' social lives which are always within some sociocultural settings. We can find plenty of instances in our lives that illustrate this claim. For instance, the genre used in the academic world is a shared tool that we appropriate. The academic genre not only facilitates the thinking and communication amongst the members of the community, but also reinforces the relationship between the members, establishing and strengthening the academic membership or boundaries of the community. What happens in the interpsychological plane of the academic world is thus imported, through language and other tools, to the intrapsychological plane of the individual members. Languages and tools used in the legal, technological, medical sectors, amongst teenagers or gang members, serve similar functions in that they shape the way the members think and strengthen the membership. Bakhtin's theory on social language and speech genres illustrates how human minds are socially and culturally constructed and connected through the use of language.

The sociocultural forces thus cut into our mental processes through many different channels. The social processes are integral in the development of our mind; social exchanges continue to transform our mind; and the psychological tools we use to carry out our mental functioning are socially situated. Therefore, to account for an individual's mental functioning, we have to look into the social and cultural environment in which the individual exists, and the tools he uses, among other things.

Although the Soviet sociohistorical (or sociocultural) psychologists' view on the human mind was developed in the 1920s, their theoretical and conceptual framework did not attract a large American audience until the late 1970s. The attention and attraction to their theory may be attributed to the more systematic introduction of their theory by scholars such as Cole, Scribner and their colleagues (Cole & Scribner, 1974; Scribner & Cole, 1981), who were interested in cross-cultural studies, and Bruner and Wood (Wood, Bruner, & Ross, 1976), and Wertsch (1979), who were focusing on children's learning processes. For instance, Wertsch (1979) observed the mother-child interactions while working on a puzzle and noticed how 4 year olds gradually picked up strategies, such as counting, pointing out color or shape of the pieces, that were prompted by the mother at the beginning of the task to assist the child. Set out to answer the question "are the cognitive processes of people reared in different cultural settings different?" Cole, and Scribner (1974), based on the Soviet sociocultural theory, reviewed the historical studies on cognitive differences among people with different cultural experiences and conducted their own cross-culture studies. They reported, among other things, that cultural familiarity or social experiences played a major role in how well subjects (both children and adults) recalled and what strategy the subjects used to perform the recall. Studies have also consistently reported how children's stage of cognitive development could improve through peer interactions (Martin, 1985; Tudge, 1985).

The induction of the sociocultural framework on human mental functioning to the United States and the promising results published by the pioneer scholars have challenged psychologists to rethink the traditional research presumption and position that the cognitive and the social can be investigated independently (or at best, treating one as a background for the other). The sociocultural view of the human mind has generated a new wave of research that investigates the human cognition in conjunction with the

social. For instance, the role of the immediate social situation has been incorporated in the study of cognitive performance. These studies reported social characters of the task representation and performance motivation that were historically presumed to be neutral or standardized, i.e., controlled. The findings also challenged the corresponding assumption that performance in the presumed neutral or standardized setting reflects cognitive competence. For instance, the historically well published findings of the conceptual limitations of children during preoperational stage were re-investigated by Siegler (1991) with a focus on language use and its interpretation by the children. Based on the new framework, Siegler speculated that the repeated questioning and other forms of unconventional questioning could and might have changed the interpretation process in the child and led to incorrect responses according to the experimenter's intent. Siegler modified the language use as well as task materials to be more familiar to the children, with the objective to better communicate the experimenter's intent. He re-examined children's "appearance-reality" distinction ability and demonstrated children's ability to make such distinctions.

The social component of the cognitive process was further investigated by Perret-Clermont, Perret, and Bell (1991). Through a series of studies using methods such as observations and in-depth interviews of grade school students performing school tasks (e.g., test taking, classroom practice of geometrical drawing, arithmetic), these authors revealed that how grade school students understand the content and context of a cognitive task, how they deal with it, and communicate about it depends on the social interactions that took place during the task performance and how the students interpret the interactions.

How the social works inside a person's head has also been explored by looking at the cognitive tools that an individual acquired socially to solve problems. For instance,

using an ethnographic approach, Heath (1991) studied the language use and social interactions of a Little League baseball team. She demonstrated how learning took place in a social process. The team Heath studied consisted of inexperienced boy players between the ages of 9 and 12 and the team coach. The study took place during the season when the team was competing in a community sponsored seasonal league. The team was near the bottom of the league at the beginning of the season but ended with being the champion of the league. Through a community social process, i.e., baseball plays, Heath noted how the youngsters achieved learning via principles such as apprenticeship, self-monitoring/reflection of play, and guided participation that were practiced throughout the season. These principles were practiced between the coach and the players and among the players. Interwoven in the process were the problem-solving narratives, noted Heath. The coach would ask the team members to analyze hypothetical situations and to think about different outcomes for different strategies. The coach would also ask the team to reflect on their own play and recite game rules. This study demonstrated how an activity outside of classrooms has taught young boys how to reason conditionally and how to solve problems. The coach had structured the (social) playing in ways that provide ample opportunities for cognitive growth that would remain with the children.

How language use can change mental functioning was also demonstrated by Palincsar and Brown (1984). To improve students' reading comprehension, these authors developed a procedure titled "reciprocal teaching" where students were required to lead a dialogue (e.g., ask questions, generating summaries) traditionally reserved for the teachers. When given such practices, students with poor reading comprehension were reported to make striking improvement even six months after the training.

The sociocultural framework has since seriously challenged the historical position on treating the social and the cognitive as two independent constructs and questioned the

assumption that each can be studied independent of the other. Instead, the new findings pointed out that the social context in which the cognitive activity takes place is embedded in the cognitive process.

In summary, the socio-cultural approach to the human mind declares that our cognitive functions are inherently situated in the social and cultural contexts. This framework differs from previous conceptions of mental functioning in that it is making the claim that the mind does not and cannot function in a vacuum or in isolation. This view acknowledges the constructive power of the mind (with the aide of language and other cognitive tools) but contends that the agency will always be socially, culturally situated. The significance and acceptance of this new conceptual framework may be reflected by the conference sponsored by the American Psychological Association (APA) in 1989 dedicated specifically to this research interest, as well as by the increased volume of studies framed in this theoretical orientation (Robins, Gosling, and Craik (1999). The impact of this development has been widely observed in the field of education to investigate, for example, teaching environment and instruction strategies that are conducive to learning. The sociocultural perspective on human mental functioning also has interesting implications on individuals' meaning construction, which will be reviewed next.

## **SOCIOCULTURAL VIEW ON MEANING CONSTRUCTION AND TEXT COMPREHENSION**

### **Sociocultural view on meaning construction**

When it comes to making sense of the world or interpreting our experiences, we can say without much argument that there are differences and there are shared viewpoints. What make us so different and yet so similar in our worldviews, our sense makings, and our meaning construction?



If we accept the view that our mind is social, that it is developed socially and it continues to take part in mental exchanges with other minds through various direct or indirect interactions (e.g., conversations, discussions, arguments, all sorts of reading, watching televisions), then we can reasonably assume that how we make sense of the world or of things in our daily lives must also be closely connected to our social and cultural experiences. More specifically, this view locates the source of materials for meaning construction outside of our head. If meaning is the interpretation evoked in a person by an event or an object (including words) at a given time (Strauss & Quinn, 1997), this acknowledgment also implicates a significant role that social or cultural interaction plays in text comprehension, as the latter is a case of meaning construction. To prepare the case, this section will begin with a brief introduction on the social and cultural influences on meaning construction, with a focus on the psychological meanings (as opposed to logical meanings). Built from it, the sociocultural view on text comprehension will be presented.

The significance of the cultural influences on the daily functioning (including mental activities) of the individual members was the focus of many cultural anthropologists in the 1960s (Geertz, 1973). Although the concept of culture was questioned and criticized in later years, this emphasis was revived by the cognitive anthropologists. For instance, Quinn and Holland (1987) pointed out that much of the order we perceive in the world (especially the social world) is there because we put it there. They further claimed that this imposed knowledge specifies and interprets what is in the world and how things work. It is distributed among (or acquired by) the members and guides the perception, understanding, and behavior of these members. Specifically, they proposed the concept of cultural models to explain how members of a society or

culture come to know or to hold certain beliefs of the world, and to act. They described cultural models as:

... presupposed, taken for granted models of the world that are widely shared (although not necessarily to the exclusion of other, alternative models) by the members of a society and that play an enormous role in their understanding of that world and their behavior in it.

In other words, Quinn and Holland viewed culture as shared knowledge with which members come to grasp the meaning of things and to act accordingly. They pointed out that the interpretive and directive features of the cultural models are readily noticeable in our daily lives. For instance, by acquiring cultural knowledge, we learn how to speak in different situations; we learn the concept of marriage and get married; we learn what "success" means and strive toward it. In this view, individuals' meaning construction relies upon social and cultural experiences.

Through his own personal journey with the Western Samoan culture, anthropologist Shore (1996) came to realize that his final understanding of the Samoan people and culture was made possible only when he learned to sort through everyday experiences the Samoan way (as opposed to relying on the cognitive tools that he brought with him). This transformational experience left him with the view that meanings are not something readily out there to be grabbed or "ready-made." They are constructed by individuals with the help of cultural resources or cultural knowledge/models, at least most of the time. (Shore acknowledged that there are times individuals may not find suitable cultural model for making sense of a situation and may use other resources to construct meanings.) With culture in mind, Shore studied the relationship between the two (culture and mind) for more than twenty years and concluded that meanings are always twice-born: They are instituted in the culture, and they are reconstructed by the individuals with the help of cultural resources; they are communal or canonical and then

they are idiosyncratic (for some individuals in certain situations). Shore's analysis bridges the concepts of culture and mind by proposing the internalization and transformation of cultural or public forms of knowledge into personal knowledge, for the purpose of negotiating meaning. While locating culture at the heart of the mind, Shore's proposal also takes into considerations the individual circumstances (both physical and psychological) and experiences and allows for individual transformation and meaning construction.

Unwilling to eliminate the idea of "culture" in the midst of heavy criticism of the concept by other contemporaries, cultural anthropologists Strauss and Quinn (1997) proposed reworking of the concept through the understanding of human meaning construction. Briefly, they described human meaning making as a product of interactions between two structures: intrapersonal mental structures (e.g., schemas, understandings or assumptions which were developed or acquired through past experiences) and extrapersonal or world structures. Additionally, what something (such as a word, an object, or an event) means to somebody "depends on exactly what they are experiencing at the moment and the interpretive framework they bring to the moment as a result of their past experiences." These authors maintained that to the extent that there is some stability in the world and that people could have common experiences, the interpretations of an object or event evoked in these people could very well be similar or shared, which the authors referred to as cultural meaning. Although these authors were using the existence of shared meanings as justification to reclaim the value of the concept of culture, their analysis of human meaning making, similar to Shore's, connects the mental transactions to individuals' life experiences, both common and unique. Also similar to Shore's proposal, this view allows for the coexistence of stable, socially shared meanings as well as idiosyncratic and momentary meanings.

Similarly, renowned critical discourse theorist Gee (2000) also acknowledged the existence of “cultural models,” “storylines,” or “theories,” that are shared within a social cultural group and that help organize the thinking and practices of the people in that group. Additionally, Gee proposed that human mind is a powerful pattern recognizer and we extract, from our social-cultural experiences, patterns (as opposed to rules) of things or words that are of “mid-level-generalizations,” i.e., patterns that are not too broad and not too specific. For instance, the mid-level-generalizations of the word “coffee” in this culture would be something like “dark-liquid-in-a-certain-type-of-cup” or “flavoring-in-certain-type-of-food.” Gee also called this knowledge which was extracted from experiences “socially situated meanings” because they are simultaneously “triggered and defined” by our experiences. Gee maintained that we work better with meanings at this level in that they are most effective and useful for thinking and actions. Take the word “coffee” as an example, if the pattern we recognized about it from our past experiences is too broad, such as something dark, or too specific, such as an ice cream flavor, we will have much difficulty managing the concept. To function at the “next level down” is especially noticeable with children or students, pointed out Gee. For instance, the more general level labels such as “report” or “essay” are not as useful for students as the “mid-level” labels such as “a review article,” “a case study report” or “an experimental study journal article.”

In addition to being socially situated and mid-level, another characteristic of situated meanings is its dynamic nature, as Gee explains:

Situated meanings are not static, and they are not definitions (though they are the primary way in which words have meanings in use). Rather, they are flexibly transformable patterns that come out of experience and, in turn, construct experience as meaningful in certain ways and not others. They are always, in fact, adapted (contextually) to experience in practice (activity). (p.199)

Gee used the example of the word “bedroom” to illustrate this point. Most of us will construct a situated meaning of the word based on our experiences such as the objects or features in our bedrooms. However, we may easily construct a different meaning of the word when the context of the word shifts to college living.

Gee claimed that situated meanings that we put together from our experiences are the building blocks in our daily functioning. They are context sensitive and subject to change based on new experiences. Some of them are well shared among the social members, and some are not:

Thinking and using language is an active matter of assembling the situated meanings that you need for action in the world. This assembly is always relative to your socioculturally defined experiences in the world and, more or less, routinized (“normed”) by the social groups to which you belong and with whom you shared practices. . . . the situated meanings are adapted each time to the specific contexts they are used in and are open to transformations from new experiences. The situated meanings behind words (concepts) like democracy, honesty, literacy, or masculine are, of course, less routinized.

Literacy scholar Smagorinsky (2001) also proclaimed that people are products of culture and culture provides the basis for meaning. He defined culture as “recurring social practices and artifacts that give order, purpose and continuity to social life.” These routine social practices are deeply ingrained within participating members and, through appropriation, mediate their actions as well as their higher mental processes. Culture thus both enables and constrains, via tools like signs and symbols (including texts), the making of a shared meaning within a group. He further proposed subcultures and “idiocultures” to describe the presence of multiple sets of practices, goals, and values within a broader culture. The existence of cultures within a culture allows for more variable and idiosyncratic social practices and the making of meanings that are more situational and adaptive.

In summary, scholars from different fields all seem to converge on the view that we construct meanings based on experiences embedded in our sociocultural environment. The meanings we construct can be similar to other members' and they can also be idiosyncratic. These scholars also suggested that meanings we build from the past are invoked or assembled again as we confront our daily lives. They are adaptable and can be context sensitive. Adopting this framework, can we expect people to construct meaning similarly when confronted with text? Do we bring to the task of text interpretation the socially shared cognitions or more idiosyncratic, situated meanings, or both? The sociocultural view on text comprehension will be briefly reviewed next.

### **Sociocultural view on reading comprehension**

The socio-cultural view on reading is that meaning making or interpretation of the text is inevitably grounded in the social or cultural practices and experiences of the reader. It is constructed and variable; it is both shared and subjective. To illustrate this point, we will review examples that reflect sociocultural way of reading.

To begin, an example of cultured reading will be presented. Consider the following lyrics from a song:

Precious Lord, take my hand  
Lead me on, let me stand  
I am tired, I am weak, I am worn  
Through the storms, through the night  
Lead me on to the light  
Take my hand, precious Lord, lead me on.

A reader who is familiar with the black culture will easily recognize, among many things, that this is a black spiritual gospel, or even that it is a song quoted in Martin Luther King's famous final speech (Lee, 1993). It is pretty safe to say that the psychological meanings evoked by the text/lyrics in an American black person will be very different from those evoked in an Asian foreign student, as an example.

More idiosyncratic construction of socially and culturally situated meanings in text comprehension may be illustrated by the following story, which was cited by Bruner (1996) in his attempt to illustrate different ways of making meaning:

Newton had a discovery: Through the use of a prism, he observed that what was ordinarily thought of as an elementary sunlight is actually a mixture of different colors in the light spectrum. He wrote up his empirical findings and had the paper published in 1672 in the *Philosophical Transactions*. A member of the Royal Society of London, of which Newton was also a member, read it and merely regarded Newton's report as a hypothesis of color. The same article was read, around 1740, around the time of the "Great Awakening" by a young, fervent, and well-liked preacher-theologian in Massachusetts, Jonathan Edwards. Shortly after he read the article, Edwards delivered a sermon. He cited Newton's discovery as "unlocking of another of God's secrets." Perhaps due to his religious belief, perhaps due to the challenging social and political era he lived in, Edwards' meaning construction of the article was very different from that of the member of the Society. (Jonathan Edwards later became the president of Princeton University.)

More common and well established examples of sociocultural way of reading can be found in reading research. For instance, Gee (2000) cited a study that compared text interpretations of the following poem, "Acquainted With the Night" by Robert Frost, by high school students coming from different socio-economic background:

I have been one acquainted with the night.  
I have walked out in rain -- and back in rain.  
I have outwalked the furthest city light.

I have looked down the saddest city lane.  
I have passed by the watchman on his beat  
And dropped my eyes, unwilling to explain.

I have stood still and stopped the sound of feet  
When far away an interrupted cry  
Came over houses from another street,

But not to call me back or say good-bye;  
And further still at an unearthly height,  
O luminary clock against the sky

Proclaimed the time was neither wrong nor right.  
I have been one acquainted with the night.

A high school student coming from a lower socioeconomic background interpreted the watchman as “a cop was on his daily routine ... couldn’t stop the situation that was happening, which was probably something bad.” She also interpreted “dropped my eyes unwilling to explain” to mean the person got caught by the police but was unwilling to explain himself out of shame. On the other hand, a student coming from a different socioeconomic background interpreted the text more figuratively, such as interpreting “I have stood still” to mean “a person stopped during his walk of life;” “interrupted cry” to mean “hearing people with different lives or path;” and the clock symbolized the time left to accomplish things. Gee attributed the differences of these two situated meaning construction to the different socioeconomic status and life experiences in which these two students occupied.

Gendered reading and writing can also be observed by comparing the content (both literary and imagery) of magazines printed for female versus male readers. The subject matters or stories covered in each type of magazine are distinct and closely tied to the reader’s (i.e., each gender’s) life experiences (Cherland, 1994; Luke, 1996; Walkerdine, 1986). Davies (1989) reported that when listening to or reading stories, children tend to align themselves with characters of their own gender and to interpret the text from that viewpoint. When children were presented with texts that are inconsistent



with gender stereotyping, they sometimes have difficulty comprehending the content. (This discussion will be elaborated later in the gender schema section.)

In summary, these examples describe how our life experiences weaved in and out of our reading process and into the interpretation and the meaning construction of the text.

The sociocultural way of text interpretation or comprehension is not a new idea. Horn suggested in the 30s that “[The author] does not really convey ideas to the reader; he merely stimulates [the reader] to construct them out of his own experiences” (Horn, 1937, p.154). The sociocultural perspective on reading is unique in that it has integrated historically dichotomized approaches to the study of readings (e.g., cognition vs. context, skills vs. meaning, structures vs. functions, and the individual vs. the social). This position is also in accord with the converging themes emerged in recent years from various disciplines such as modern composition theory, literacy research, cognitive psychology, sociology, cognitive linguistics, etc. (Gee, 2000). For instance, from the ethnographic approach to the study of language use, Gumperz and Levinson (1996) contended that language users rely on contextual cues, which they must infer using various clues, to give words meanings relative to the context. These contextual cues not only differ among different cultures, but also differ among different social groups within the same culture.

To explain what meaning is made from, Smagorinsky (2001) used signs and tools to describe what text is and how the meaning of text is constructed. (He began by making the claim that text is similar to signs by being a configuration of them.) A sign, such as the Confederate flag, is a representation of something to somebody. This representation, which is the essence of meaning making of the sign, will be different for different people. Closely resembling what Gee suggested, Smagorinsky also proposed that meaning

making emerges from our social or cultural experiences with respect to the sign. The representation or meaning making of the sign, including text, is also mediated by each reader's unique experiences that s/he brings to the task and/or the context in which the reader situated the text. Smagorinsky held the premise that a text only provides a meaning potential. What text meaning is "realized" will differ among different readers in different ways. (This premise is contrary to the position taken by standardized testing or science reading research where text is presumed to have an inscribed meaning to be deciphered by the readers.)

Smagorinsky proposed a "transactional zone of meaning construction" to explain how we construct the meaning of text. Simply put, this is an arena where the reader and the text become engaged through cultural mediations. A shared cultural practice between the text and the reader will facilitate engagement that leads to meaning construction of the reader closer to what the author intended (assuming there is one). There are a host of tools, such as the social schema or cultural constructs that both the author and the reader appropriated, that facilitate the engagement or meaning making activities in the zone. In summary, Smagorinsky (2001) viewed reading as "inherently cultural" (p.143). In response to his own question, "If meaning is constructed, what is it made from?" Smagorinsky replied:

... the answer lies in the transaction zone and the kinds of processes and practices that readers engage in as they employ the associations they make with the text with their broader life narrative, generating new texts that in turn make that narrative more comprehensible in terms of the cultural and ideological drama that composed their life story and locates that story in a broader social community's political life. (p.163).

Engagement between the reader and the text does not imply that the meaning constructed remains a constant. A reader's text interpretation of the same text can also vary from reading to reading. The context of a text inferred or situated by the reader

during the act of reading is also critical for the text interpretation (Anderson & Shifrin, 1980). Context frames the text to provide meaning, therefore, as it changes, the meaning of the text can also change. An important source of context for a reader is the history, immediate or distant, of the reader's personal experiences, including previous readings, that surfaced to the reader's consciousness (or may be subconscious?) during the task of reading.

In summary, the sociocultural view on text comprehension suggests a dynamic nature of the act of reading. Not only does reading or meaning making via reading involves the reader and the text, the activity also encompasses the social, cultural experiences the reader brings to the activity and how these experiences interact or engage with the text to produce meaning. This view challenges the existence of a literal or official meaning of any text, including that of the survey questionnaire or scale items. According to this framework, responding to a personality scale cannot be presumed to be an isolated event, insulated from the respondent's social or cultural practices which may provide the context for the read, however tacit. The presumption that text presented in the hypothetical construct and the scale items measuring the construct has a literal or official meaning to the respondents or that the process of interpretation can be ignored must be re-examined, if not challenged.

#### **SCHEMAS – A BUILDING BLOCK OF HUMAN KNOWLEDGE**

If the meaning construction of the text is socially situated, how do the social cultural experiences including practices seep into the world of reading? Social schemas provide one perspective on how this works. Before delving into the role of social schemas in text comprehension, schema theory will be introduced.

The term schema was introduced to the field of psychology by Bartlett (1932) to explain a unique feature he observed in the way people remember things. Based on his

research, he noticed that human memory recall was not a passive or random event. It was a guided activity, by a person's interests or attitude toward the topic being recalled. Bartlett concluded that details were constructed by his subjects to justify or serve a preformed "general impression." Although schema was central to Bartlett's theory of human memory, other than using general terms such as general impression, active organization or mental set to describe the term, he never elaborated on the specifics of the concept or how schemas work.

Along the same line, Ausubel (1963) also proposed that meaningful learning takes place when the new learning is "anchored" on existing general knowledge. Ausubel was mainly interested in using "advanced organizer" to bridge what the student already knows to what the student is to learn. Although Ausubel did not refer to the term schema, his recognition of the facilitating effects of the existing general knowledge was well within the realm of a schema theory.

It was not until the 70s that the concept of schema became one of the most important theoretical constructs emerged from the field of cognitive psychology. Schema theory proposed schemas as the fundamental elements of the knowledge structure upon which further cognitive processing/activities (e.g., learning, interpretation, memory organization and retrieval) rely. Closely related to this concept are notions such as frames, scripts, or plans.

Rumelhart (1980) described a schema as a unit of stored information or knowledge which consists of a network of interrelated subschemas that correspond to the constituents of the concept or knowledge being represented. For instance, a bird as a schema may contain subschemas such as feather, beaks, wings, eggs, etc. Each of these subschemas may contain further networks of interrelated subschemas. A schema is also an active process. Once activated by a sensory input, it constantly evaluates how well the

stored knowledge structure or schema fits what is perceived. A schema can in turn activate other schemas as needed. Rumelhart suggested that the schemas we have act as our private, unarticulated, informal theory about the nature of reality. We use the theory to explain what we experienced and to build new knowledge or make predictions. When the schemas we have provide an adequate account of what we encountered, we achieve a sense of understanding.

Earlier cognitive psychologist described schema as an abstract knowledge structure that a person constructed from prior experiences (Anderson & Pearson, 1984). A schema is abstract because it is a high level summary of past experiences that are related and connected but at the same each with different features. It is a structure because schema contains a network of components with relationships among them. But functionally, the schema acts holistically - Activation of a schema provides a general framework which facilitates the cognitive activities of an individual. As the understanding of knowledge changed overtime, the earlier conceptualization of schema as a somewhat static structure(s) of prior knowledge changed accordingly. Schema was later viewed to be an "explicit knowledge" that was constructed or organized, based on an individual's knowledge base, at demand (Alexander, Schallert & Hare, 1991).

As an active and organized knowledge structure, schemas had been reported to play an important role in perception, in remembering, in problem solving, and in comprehension. For instance, Palmer (1975) reported how the same drawings of individual facial features (e.g., an eye or a nose drawn with simple lines) were readily recognizable when presented side by side to a drawing of a human profile, but not so in the absence of such a "face" schema. A person's schema has also been found to influence the act of remembering. For instance, Snyder and Uranowitz (1978) conducted a study where subjects read the same case history but given different description about the case –

either a lesbian case or a heterosexual female case. The results showed subjects selectively remembered case information consistent with the lesbian (or heterosexual) label and distorted information inconsistent with the label provided to them. Anderson and Pichert (1978) reported that subjects could recall new information from a previously read passage when they were instructed to take a new perspective (e.g., a home buyer versus a burglar), which demonstrated how an activated schema can influence what can be remembered. Such an effect of an activated schema on memory recall has been consistently demonstrated (Anderson, Pichert & Shirey, 1983; Fass & Schumacher, 1981; Flammer & Tauber, 1982).

Schemas were also reported to play an important role in our reasoning process. A problem presented in a non-familiar setting was significantly less likely to be solved than when the same problem was presented in a more familiar situation (Watson & Johnson-Laird, 1972; D'Andrade, 1989). D'Andrade suggested that a problem becomes less difficult when a well formed schema is in operation.

Schema also plays a variety of roles in the act of reading. It impacts text meaning making as well as other reading related activities. To begin, schema has an effect on how readers attend to the text. For instance, Rothkopf and Billington (1979) reported that when students were given specific learning objectives before performing the reading, they spent more time on sentences relevant to the objectives and less time on those not relevant to the objectives, as compared to time spent by students who did not receive learning objectives. Other studies (Britton, Piha, Davis, & Wehausen, 1978; Reynolds & Anderson, 1982; Reynold, Standiford, & Anderson, 1979) also reported when students were questioned periodically regarding some content of the readings, they learned more of the question-related content from the text than did those students who were not probed during reading. Similarly, Goetz, Schallert, Reynolds and Radin (1983) reported that

when subjects were instructed to take a certain role (e.g., a home buyer, a burglar) to read a paragraph, the role the subject played significantly impacted what information the subject attended to, as reflected by what was reported subsequent to the reading.

Schemas have also been suggested as the key to text comprehension. The process of understanding or constructing meaning of the text may involve the process of finding a schema or schemas that offer(s) a coherent account of what's being read (Runmelhart, 1980). The reader may activate a schema or schemas and make sense of the text as intended by the author; or she may activate a schema or schemas and find meaning of the text that is not what the author had in mind. When the reader is not able to activate a schema in the reading process, she then will feel disjointed. For instance, Bransford and Johnson (1972) presented a short passage written in general and vague language:

The procedure is actually quite simple. First, you arrange the items into different groups. Of course one pile may be sufficient depending on how much there is to do. If you have to go somewhere else due to lack of facilities, that is the next step, otherwise you are pretty well set. It is important not to overdo things. That is, it is better to do too few things at once than too many. In the short run this may not seem important but complications can easily arise. A mistake can be expensive a well. At first the whole procedure will seem complicated. Soon, however, it will become just another facet of life. It is difficult to foresee any end to the necessity for this task in the immediate future, but then one can never tell. After the procedure is completed, one arranges the materials into different groups again. Then they can be put into their appropriate places. Eventually they will be used once more and the whole cycle will then have to be repeated. However, that is part of life.

Some subjects were given the title "Washing clothes" before they read the passage, some after, and others not at all. Most readers without any instruction found the passage extremely difficult to understand. A few invoked schemas totally unrelated to clothes washing and made sense of the text based on the invoked schema (e.g., the paragraph is a job description). Those given the title before reading not only comprehended the passage, but also recalled with terms, such as Laundromat, that were not even in the passage. The

other two groups, those who were told of the title after the reading and those without any information, did not differ on what they could recall.

Similarly, based on a text written in a way that can be interpreted in more than one way, Anderson, Reynolds, Schallert and Goetz (1977) found that music major would read the paragraph consistent with their music background and physical education major would interpret the text consistent with their background. Additionally, the subjects reported not being aware of alternative interpretations of the text. The results indicated that a reader's background may serve as a high-level schema, which, in turn, provides an interpretive framework to facilitate comprehension of the text.

### **Social schemas**

Schemas can also be of social or cultural nature. This claim is reasonable considering what a schema is - an abstract, organized knowledge structure based on past experiences. As mentioned earlier, the socio-constructivists explained that concepts and meanings are located first in the culture, and secondly, through the act of appropriation, in the individual's mind. When we live in a sociocultural environment, the practices, assumptions, expectations, and values that we experienced and shared with other members of a social cultural group will inevitably be summarized into our life history and become our personal knowledge. Life history and personal knowledge can provide frameworks through which we make sense or comprehend the world. This type of schemas is called social or cultural schemas. From cognitive anthropology's perspective, culture is declared as one of the most important sources of human schemas, as D'Andrade (1992) explained:

Each individual's life history can be viewed as the building of new schematic organizations through processes of accommodating to experience and assimilating these experiences to previous schematic organizations. The final result is a



complex layering and interpretation of cultural and idiosyncratic schemas ... (p. 56)

D'Andrade (1995) further contended that, through social schemas, culture is connected to the psychological processes of the individual members (such as in inference making, motivation, values) and further guides our behaviors. The influences of social schemas permeate our lives. Consider the concept of marriage. We develop our schemas about marriage based on what we experienced or learned from the society or culture. Not only that we understand the concept this way, we also hold certain expectations, and place certain values based on the culturally shared cognitions, and we make decisions and act accordingly. Gender role is another good example. Gender schemas will be introduced and elaborated later.

The socio-constructivist view explained that meanings (or situated meaning as proposed by Gee) emerge during the reader-text transaction through the representation(s) of text (a sign) with reader's life experiences. Social schemas may be viewed as the mediator at the center of the "transactional" zone where meaning of a text is constructed.

The effect of culture or social schemas on reading comprehension has been studied extensively. The basic research paradigm usually involves a 2x2 factorial design where subjects with different cultural background are instructed to read culturally familiar and unfamiliar passages. Also typically, comparisons of comprehension level, as reflected by various dependent measures, will be made between subject groups and between culturally familiar versus unfamiliar passages.

The effect of cultural knowledge and beliefs or cultural schemas on reading comprehension has been consistently reported. For instance, Steffensen, Joag-dev, and Anderson (1979) had Eastern Indian and American adult subjects each read two passages, one about a typical American Wedding and one about a typical Indian wedding. Subjects

not only read the native passage faster, but also recalled a larger amount of information, produced more culturally appropriate elaborations, and produced culturally based distortions of the foreign passage. Similar results were demonstrated by Prichard (1990) based on 11<sup>th</sup> grade readers from the U. S. and from Palau, a Pacific island nation. When the subjects were instructed to retell the passage either about a Palauian funeral or a traditional American funeral, the two groups differed on the ideas, elaborations and distortions they produced about each passage.

Johnson (1981) demonstrated that “English as a second language” (ESL) university students who had prior experience of the Halloween custom understood the information about Halloween in the passage they read significantly better than those who had not experienced the custom. Johnson also reported that preparing the students by studying Halloween vocabulary words (some of them were mentioned in the paragraph) did not help subjects’ comprehension of the paragraph.

Lipson (1983) reported religious affiliation (Catholic versus Jewish) also influenced 4<sup>th</sup> to 6<sup>th</sup> grade students’ reading performance in terms of the amount of time they took to read the passage, recall accuracy and probed recall accuracy, in favor of the familiar passage. The influence of race based cultural schemas on reading comprehension was similarly demonstrated by Reynolds, Taylor, Steffensen, Shirley, & Anderson (1982).

As mentioned earlier, Davies (1989) reported difficulty for children to comprehend texts inconsistent with gender-stereotyping.

In summary, schema theory proposed the importance of schemas readers bring to the reading zone to interpret the text. The socio-constructive view on reading implicates an essential role life experiences and, thus, social cultural schemas may play in the meaning construction of text.

## **BEM SEX ROLE INVENTORY (BSRI) - AN INSTRUMENT TO BE EXPLORED**

The research reported here explored the meaning construction of scale items included in the Bem Sex Role Inventory (BSRI), which was developed to measure gender role identification or sex role orientation. The instrument was selected for several reasons: (1) It is an important instrument - The instrument has been widely used in psychological studies for three decades; (2) the instrument was unique in the sense that it was “empirically” developed without a theory - the instrument was constructed based on numerical/statistical results; (3) the instrument addresses a concept, gender role, that is socially and culturally embedded; (4) the author of the instrument proposed (after the development of BSRI) gender schema theory and used it as the theoretical framework to explain/justify what her instrument measures, i.e., gender types; and (5) factor analysis studies of the instrument have produced intriguing results. These features of BSRI will be elaborated and clarified later.

### **Historical background of the development of BSRI**

Subsequent to and perhaps heavily influenced by the feminist movement during the 60s, the historically dominant bipolar conception of masculinity-femininity continuum, with the underlying assertion that the presence of one precludes the existence or display of the other, began to crumble. The concept was revisited, scrutinized and challenged by a dualistic model (Bakan, 1966; Carlson, 1971; Block, 1973; Constantinople, 1973), which prescribed masculinity and femininity as separate, independent dimensions that can coexist but to varying degrees within an individual. A sequel to the induction of the new conceptualization is the inevitable need and desire of a corresponding measurement instrument. The pioneer of this attempt may be attributed to Bem (1974) for her development of the Bem Sex Role Inventory (BSRI) and to Spence and Helmreich (1974, 1975) for their parallel development of the Personal Attributes

Questionnaire (PAQ). These two instruments may be described as the most popular instruments for measuring sex role identification until the early 80s, when Spence (1984) declared PAQ as measuring nothing more than gender differentiating personality traits. Bem, however, remained confident that BSRI measures gender role identification and, more recently, gender schemas. Perhaps because of her persistent defense, BSRI continues to appear, to this day, in journal articles as the instrument to measure masculinity-femininity or sex role identification. (The momentum behind the development of BSRI can be used as another example which demonstrates how the social cultural forces shape a person's cognitive processes or how the latter are situated in a sociocultural and historical environment.)

### **The Development of BSRI**

Bem Sex Role Inventory was developed by Bem (1974) in the early 70s as a self-administered instrument to measure the construct of psychological androgyny. Bem (1974) argued for the existence of androgynous individuals who are “both masculine and feminine, both assertive and yielding, both instrumental and expressive.” She thus proposed a two dimensional (masculinity and femininity) construct of gender role to counter the traditional bipolar (masculine-feminine) and uni-dimensional assumption of gender role. Traditional “bipolar” instruments such as the Masculinity-Femininity scale of the California Psychological Inventory (Gough, 1957) obviously can not accommodate this new conceptualization. Bem, therefore, developed her own instrument. The final outcome, i.e., BSRI, in accord with the concept of androgyny, consists of a Masculinity subscale and a Femininity subscale. It also includes a Social Desirability (SD) subscale. Bem contended that the SD subscale is "completely neutral with respect to sex" and "serves primarily to provide a neutral context for the Masculinity and Femininity scales" to ensure that the instrument "would not simply be tapping a general tendency to endorse

socially desirable traits." There are 60 items in the scale with 20 items in each subscale. These items are available for readers' review in previous publications (Lenney, 1991).

### ***Item pools***

The Masculine and Feminine items were selected from an original item pool consisting of 200 personality characteristics. Each personality characteristic in the pool was considered by Bem and her students to be positively valued and stereotypically masculine or feminine.

An additional list of 200 items was also compiled by Bem and her students based on their "neutral" tone with respect to gender, i.e., these items were considered by Bem and her students to be neither masculine nor feminine. Half of the characteristics in this pool were considered positive in value and half were considered negative. From this pool, the Social Desirability scale items were selected.

### ***Item selection***

The desirability of each of the 400 items from the two item pools were rated on a 7-point scale, with "1" being "not at all desirable" to "7" being "extremely desirable." The ratings were provided by two samples of judges (20 males and 20 females in 1972 and 30 males and 30 females in 1973) who were undergraduate students attending Stanford university at the time. Half of the judges of each sex were asked specifically to rate the desirability of each item for a man in American society. For instance, "In American society, how desirable is it for a man to be truthful?" The other half were asked to rate the desirability of each item for a woman (e.g., "In American society, how desirable is it for a woman to be sincere?"). No judge rated the same item for both male and female.

If an item was judged by both the male and female judges to be significantly more desirable for a man than for a woman, the item was qualified as a masculine item. If an item was judged the opposite by both male and female judges, i.e., significantly more desirable for a woman than for a man, the item was qualified as a feminine item. Of those characteristics that satisfied these criteria, 20 were selected for the Masculinity (M) subscale and 20 for the Femininity (F) subscale. The mean desirability ratings of items in both scales were about 5.5.

An item was selected for the Social Desirability subscale if the item was rated by both male and female judges to be no more desirable for one sex over the other and that the general desirability rating of the item did not differ significantly between the male and the female judges. Of the twenty items selected and included in the BSRI, half were positive and half were negative in terms of desirability.

It is worth noting that the items selected for each scale were based on statistical criteria without the identification or definition of the categories (i.e., “masculine,” “feminine,” and “socially desirable”).

Due to unexpected factor analysis results (which will be reviewed in the section addressing criticisms of the scale) and other criticisms, Bem (1979) revised the scale a few years later. The revised version contained only 30 items from the original scale, with 10 items in each subscale. The short version has been referred to as the short BSRI. Bem (1981) reported that the correlations between the short BSRI scales and the original BSRI scales to be around .90.

### **Scoring of BSRI**

When taking the BSRI, the respondent is to use a 7-point scale (1 – “Never or almost never true” and 7 – “Always or almost always true”) to indicate how well each item describes her/him. The respondent’s Masculinity (M) score is the mean of his self-

ratings on the (20) masculine items. Similarly, the respondent's Femininity (F) score is the mean of his self-ratings on the (20) feminine items.

### ***Difference score method***

Originally Bem (1974) proposed the Androgyny score as the difference between the M and F scores (or more specifically, the difference between an individual's M and F scores normalized with respect to the standard deviations of his/her M and F scores). The greater the absolute value of the Androgyny score, the less androgynous the person is. In this scoring method, there was no distinction made between those who score high on both masculine and feminine items and those who score low on both. The two groups are considered equally androgynous. The importance of the distinction was subsequently reevaluated (Bem, Martyna, & Watson, 1976; Bem, 1977) by conducting new studies as well as rescoring and reanalyzing the old data using the scoring method proposed by Spence, Helmreich, and Stapp (1975). The results led Bem to the conclusion that the distinctions between the two ways of obtaining low androgynous scores were warranted and, consequently, to the adoption of a new scoring method of BSRI.

### ***Median split method***

This method was proposed by Spence et al (1975). It assigns a respondent to one of four gender types based on the individual's M and F scores relative to the median (which is established locally or using the norm provided in the instrument manual). A person is classified as a Masculine gender type if the M score is above the median and F score below the median. A person is assigned to the Feminine gender type if the F score is above the median and M score below. An Androgynous gender type has both the M and F scores above the median; and the Undifferentiated has both scores below the

median. This classification method was subsequently adopted by Bem and well accepted to this date.

### **Psychometric properties of BSRI**

In Bem's 1974 study, the BSRI was administered to two samples to collect data for the purpose of psychometric analyses. The first sample consisted of 444 male and 279 female undergraduate students taking introductory psychology courses during winter and spring of 1973 at Stanford University. The second sample was made up of paid volunteers (117 male and 77 female) recruited at Foothill Junior College, California.

#### ***Reliability***

##### Internal consistency

Internal consistency of the scales was estimated by calculating the coefficients alpha for the Masculinity, Femininity, and Social Desirability scores for each sample. All three scores in both samples were found to be highly reliable: Masculinity  $\alpha = .86$ ; Femininity  $\alpha = .80$ ; Social Desirability  $\alpha = .75$  for the Stanford sample and, correspondingly, .86, .82 and .70 for the Foothill sample.

Wilson and Cook (1984) also reported coefficient  $\alpha$  of .88 for Masculinity and .78 for Femininity, based on a sample of 183 female and 98 male graduate and undergraduate students.

##### Test-Retest

Based on a sample of 28 males and 28 female Stanford students, Bem also reported high test-retest reliability over a 4-week period for the Masculinity ( $r = .90$ ), Femininity ( $r = .90$ ), Androgyny ( $r = .93$ ) and Social Desirability scores ( $r = .89$ ). Rowland (1977) reported reliability over the 8-week interval for Masculinity (males  $r = .93$ ; females  $r = .88$ ) Femininity (males,  $r = .80$ ; females,  $r = .82$ ) and Androgyny (males,



$r = .86$ ; females,  $r = .91$ ). Based on female university students scores over a 4-year interval, Yanico (1985) reported reliability for Masculinity ( $r = .56$ ) and Femininity ( $r = .68$ ).

Reliability of the BSRI responses appeared to have been well received and had not been the focus of much research focus. In contrast, the validity studies regarding BSRI responses have been extensive, both in terms of breadth and time period.

### ***Validity***

#### Sex differences on the M and F scores

In Bem's normative samples, males scored significantly higher than females on the M scale, 4.97 versus 4.57 respectively. Conversely, females scored significantly higher than males on the F scale, 5.01 versus 4.44. The self-ratings on the scales have been changing over the years, especially for women, whose scores on the M scale has been steadily increasing (Twenge, 1997).

#### Correlation between M and F Scores

Bem (1974) also calculated the correlations between the Masculinity scores and Femininity scores within each gender: Stanford sample: males,  $r = .11$ , females  $r = -.14$ ; and Foothill sample males,  $r = -.02$ , females,  $r = -.07$ . Although the coefficients were statistically significant, they were small enough for Bem to consider these findings empirical evidence for her dualistic conceptualization of masculinity and femininity.

#### Behavior correlates

One type of construct or concurrent validity studies involved correlating individuals' gender type (as defined by the scale) with behavioral measures that were judged to be stereotypically sex typed. For instance, Bem (1975) reported that not conforming to social pressure (i.e., independent) was judged by Stanford students to be a masculine behavior, and playing with a kitten as a feminine behavior. Based on these

predetermined measures, Bem also reported masculine and androgynous subjects of both sexes remained independent from social pressure significantly more than feminine subjects did. However, when playing with a kitten was used as a behavioral measure, only the male subjects behaved as expected, i.e., "feminine" and androgynous males interacted significantly more with the kitten than the masculine males. None of the expected patterns were observed in female subjects.

Puzzled by the unexpected findings, especially with the low nurturing behavior of the "feminine" women, Bem et al (1976) decided to use interpersonal interactions, such as playing with an infant or listening to a lonely student, as the behavioral measures to test their hypotheses. Based on 84 undergraduate subjects, Bem found that only the measure "listening to a lonely student" showed results as expected. Nonetheless, the authors concluded that, when taken together, there was a general pattern emerging from their study results that suggested that "for both men and women, sex typing does appear to restrict one's functioning in either the instrumental or the expressive domains" (p.1022).

Based on 24 sex-typed, 24 androgynous, and 24 sex-reversed members, as defined by the BSRI, of each sex, Bem and Lenney (1976) reported sex typed subjects were more likely than either the androgynous or the sex-reversed subjects to prefer sex-appropriate activities (e.g., nailing two boards together for male subjects and ironing cloth napkins for female subjects) and to resist sex-inappropriate activities. Additionally, sex typed subjects also reported experiencing more psychological discomfort and lowered self-esteem when actually engaging cross-sex behaviors and being photographed, especially in the presence of an opposite-sex experimenter.

Bem (1979) was content with the above study results and other reported findings (e.g., Ickes & Barnes, 1978; Russell, 1978), and concluded that "empirical research on

the behavioral correlates of sex typing and androgyny has so far confirmed that [BSRI] is serving its intended conceptual purpose” (p.1048).

A meta-analysis conducted by Taylor and Hall (1982) showed that masculinity related positively to "male-typed" dependent measures in 93% of the cases, and femininity, 56%. Conversely, femininity related positively to "female-typed dependent measures in 80% of the cases, and masculinity, 47%.

In summary, study results basically support the conclusion that people scored high on the Masculine scale, regardless of sex, were more likely to exhibit self-assertive behaviors under situations calling for these skills than those scored low; and people who scored high on the Feminine scale were more likely to display nurturing or interpersonal behaviors than those who scored low.

#### Correlation with other instruments

Bem (1974) reported no correlation between BSRI Masculinity, Femininity or Androgyny scores with the bi-polar Masculinity-Femininity Scale of the Guilford-Zimmerman Temperament Survey (Guilford & Zimmerman, 1949). However, she reported moderate correlation between the Fe Scale of the California Psychological Inventory (Gough, 1957) and all three BSRI scores. Bem interpreted these findings as indicating that the BSRI measures an aspect of sex roles not tapped by bipolar measures. Similar correlations between BSRI and MMPI M-F scores have been reported by Evans and Dining (1982).

Correlations between parallel scales on the BSRI and PAQ have been consistently reported by various studies to be in the range between .56 and .89 (Lenney, 1991). Spence (1984) stated “for most practical purposes, the PAQ and the short BSRI M and F scales probably can be treated as interchangeable.” The same statement also applied to the PAQ and BBSRI M scales.

Correlations between corresponding BSRI and Personality Research Form ANDRO Scales (Berzin, Welling & Wetter, 1978) have been reported by various studies to be around .55 (Lenney, 1991). When BSRI scores were correlated with the scores from the Adjective Check List M and F scales, the correlation coefficients computed based on mixed sex subjects ranged from .57 to .75; and ranged from .10 to .64 when calculated within each gender group (Lenney, 1991).

### *Validity studies at item level*

Several studies approached the validity issue regarding BSRI by re-examining the desirability ratings of the Masculine and Feminine items of the instrument. These researchers were interested in finding out whether the desirability ratings of the items could be cross validated by using different populations. For instance, Edwards and Ashworth (1977) using 80 volunteer participants recruited at two public university libraries and student unions reported very different results. When the volunteers were asked to rate the desirability of each characteristic of an American male and female, their responses produced only two items (i.e., masculine and feminine) that met the original item selection criterion (i.e., both sex judges must rate an item to be significantly more desirable for one sex than the other). This study differed from Bem's original item selection study in two ways: Edwards and Ashworth's study used face-to-face data collection procedure and a 9 point rating scale, whereas paper and pencil and a 7-point rating scale were used in Bem's study. This study had subsequently generated further studies with inconsistent results (Heerboth & Ramanaiah, 1985; Ramanaiah & Hoffman, 1984; Walkup & Abbott, 1978).

Using 1464 graduate students as subject, Pedhazer & Tetenbaum (1979) reported higher social desirability ratings for the masculinity items and lower social desirability ratings for the femininity items.

More recently, Harris (1994) surveyed 3000 (half male and half female) mall shoppers in Chicago and found that all 19 Masculine scale items (the “masculine” item was excluded) were rated by both sex volunteers to be significantly more desirable for a man than for a woman, whereas 16 out of 19 Feminine scale items (the “feminine” item was excluded) were rated significantly more desirable for a woman than for a man. Additionally, only two items (Conscientious and Jealous) on the Social Desirability scale were judged to be neutral (i.e., no significant difference) with regard to sex by both male and female judges. The particularly large sample size adopted by Harris might have “sensitized” the statistical significance. Another interesting result emerged when the desirability ratings were analyzed based on ethnicity of the subjects. The Latino and Black subjects’ desirability ratings were very different from those of the Anglo subjects. For instance, none of the 19 Masculine scale items based on ratings provided by the Black respondents passed Bem’s selection criteria. For instance, Black male subjects rated “Dominant,” “Strong personality,” and “Willing to take risks” from the Masculine scale items as more desirable for a woman than for a man. The Hispanic group supported 13 out of the 19 Masculine items based on Bem’s criteria. Similarly, only two of the Feminine items (Sensitive to the needs of others and Tender) were supported by the Black respondents using the original selection criteria and eight such items were supported by the Hispanic respondents. The study strongly supported ethnic differences in their conception of gender related characteristic desirability.

Holt and Ellis (1998) replicated Bem’s item selection procedure using students attending a Summer term psychology course at a small Southern university. The sample consisted of 68 men and 70 women whose ages ranged from 18 to 52, with a mean age around 25. They were predominantly white and middle class. Based on their ratings, the authors reported all 20 of the Masculine scale items were revalidated using Bem’s criteria

and 18 of the 20 Feminine scale items were revalidated. “Childlike” and “Loyal” from the Feminine scale did not generate significant differences. These authors also noticed that the difference between the mean desirability rating for a man and for a woman of the items had decreased since the construction of BSRI. This observation may be interpreted as an indication of weakened gender role stereotyping in the present sample.

Auster and Ohm (2000) were interested in finding out whether the masculine and feminine traits judged desirable for each sex almost 30 years ago were still valid after three decades. Based on 52 male and 81 female students attending entry level classes at a small private liberal arts college, these authors reported a somewhat different picture. Although 18 out of 20 Feminine scale items still met Bem’s criteria for inclusion, only 8 of 20 Masculine scale items did: Acts as a leader, Aggressive, Ambitious, Dominant, Forceful, Has leadership abilities, Independent, and Masculine. More interestingly, the reason why the majority of the masculinity items did not pass Bem’s selection criteria was that male respondents’ ratings failed to show differential desirability for men and women. In other words, the male raters considered most of the masculine traits as similarly desirable for a woman as for a man. Furthermore, while the mean desirability ratings for men were similar between male and female raters, the desirability ratings for women were quite different: Male raters rated the masculine traits higher in desirability for a woman than the female raters did and female raters rated the feminine traits higher in desirability for women than the male raters did. The authors attributed their findings to gender differences in their perception of societal expectations: “...female respondents are more likely than male respondents to believe that society’s traditional gender expectations persist in terms of the desirability of particular traits for a woman. Perhaps women’s responses reflect resistance they have actually experienced in their quest for achievement...” (p.524).

Twenge (1997) performed a meta-analysis based on 63 studies published over a twenty year span (1975– 995), that had reported BSRI scores. The result showed a very linear increase over time in the BSRI Masculinity scores for both men and women with a corresponding decrease in the mean Masculinity score differences between the two sexes. Analysis did not show an equivalent increase in BSRI Femininity scores but suggested a possible increase of the Femininity score for men.

In summary, these studies suggested that the desirability ratings of BSRI items established by Bem's sample may not be applicable to different ethnic groups and may not hold over time. The unstable nature of the desirability ratings of the items over time was also accompanied by a similar pattern of change in the self-reported BSRI scores as indicated in a meta-analysis study. Since both ethnicity and changes over time reflect social cultural differences, these findings may be interpreted as suggesting a social, cultural role in respondents' responses to BSRI items.

### **Factor analysis studies of BSRI**

Although Bem developed the scale with two independent constructs (masculinity and femininity) in mind, she did not conduct factor analysis studies to infer the validity of her conceptualization. (She only used correlation analysis to show the independence or lack of significant correlation between the two scale scores within each gender group.) Actually, factorial studies have consistently demonstrated that two factors are inadequate to capture the factor structure of the responses to BSRI (Antill & Russell, 1982; Blanchard-Fields, Suhrer-roussel, & Hertzog, 1994; Feather, 1978; Gaudreau, 1977; Moreland, Gulanick, Montague, & Harren, 1978; Pedhazur & Tetenbaum, 1979; Whetton & Swindells, 1977). The few studies (Bledsoe, 1983; Carlsson, 1981; Thompson & Melancon, 1986) that supported a two factor (M and F) structure of the BSRI scores

based on exploratory factor analysis (EFA) were criticized for failure to evaluate alternative, more differentiated factor structures (Blanchard-Fields et al, 1994).

### ***Exploratory factor analysis (EFA)***

A multi-factor structure may be described as the best accepted model for BSRI responses. However, different studies have reported different numbers of factors or different factor structures. For instance, based on EFA technique, many studies reported four relatively common factors, with some variations on the items loaded or not loaded on the factors: (1) a bipolar M-F dimension (defined by the “Masculine” and “Feminine” items alone, sometimes with additional items such as Gullible, Childlike); (2) Interpersonal Sensitivity (defined mainly by items from the Femininity scale); (3) Assertiveness (defined mainly by items from the Masculinity scale); and (4) Self-Sufficiency (defined mainly by items from the Masculinity scale) (Collins, Waters, & Waters, 1979; Gross, Batlis, Small, & Erdwins, 1979; Larsen & Seidman, 1986; Pedhazur & Tetenbaum, 1979; Rush, 1984; Schmitt & Millard, 1988; Waters & Popovich, 1986; Waters, Waters, & Pincus, 1977). These studies supported the cohesiveness of the concept of “communion” proposed by Bakan (1966) or “expressiveness” proposed by Parsons and Bales (1955); but further differentiated the concept of “agency” or “instrumentality” proposed by the same theorists.

Other studies reported further breakdown of the Masculinity construct and extracted five or more factors from the scale items (Gaa, Liberman, & Edwards, 1979; Maznah & Choo, 1986; Sassenrath & Yonge, 1979). There were also studies reporting extracting more factors from the Feminine items (Berzins, Welling, & Wetter, 1978; Feldman, Bringen, Nash, 1981; Gaa et al, 1979; Hiller & Philliber, 1985; Windle & Sinnott, 1985).



Unfortunately, comparisons among these studies were difficult because not only did the types of samples vary among the studies in terms of age or gender of the subjects, but also the items included in the factor extraction differed from study to study (e.g., whether the Social Desirability items were included in the analysis). A sample of the study results is presented in Table 2.1. These studies were selected partially for their distinct subject sample characteristics and partially for their factor analysis results. Based on 9 factor analysis studies, Brems and Johnson (1990) reported the tendency for some items to appear in the same factor. They identified two such groups. Group 1 consisted of items Gentle, Warm, Tender, Compassionate, Sensitive, Understanding, Affectionate, Sympathetic, and Eager to Soothe Hurt Feelings; group 2 consisted of items Dominant, Aggressive, Willing to Take a Stand, Assertive, Strong Personality, Makes Decisions Easily, Acts as a Leader, Has Leadership Ability.

### ***Confirmatory factor analysis (CFA)***

Studies using confirmatory factor analysis (CFA) did not appear to provide a converging or stable factor structure to support the two-dimension theoretical framework of the instrument. For instance, Marsh and Myers (1986) who were the first to apply CFA on BSRI responses, reported a two-higher-order factor (M and F) (each with seven first order factors) structure of the scale responses but the two factors were found to be positively correlated. Their study was based on 269 8th grade and 10th grade high school students in Australia and an Australian version of BSRI. The scale items were different from the original American version in that (1) the number of items was reduced to 14 Masculinity items and 14 Femininity items, due to government policy regulations and vocabulary range concerns for the age group; and (2) 5-point scale was used.

Table 2.1: Factors Extracted from the BSRI Studies

Source	Year published	Subject characteristics	Scales included	Gender (n)	No. of factors (% var explained)	Factor names in order of decreasing eigen values
1	1979	Graduate students	M, F	female (400) male (171)	4 (73%) 4 (83%)	Assertiveness, Interpersonal Sensitivity, Self-sufficiency, Bi-polar Interpersonal Sensitivity, Assertiveness, Self-sufficiency, M-F
2	1979	Undergraduate students	M, F	f (533) m (361)	6 (51%)	Nurturance, dominance, Autonomy, M-F, Competition, Leadership. (There were 3 additional uninterpretable factors.)
3	1982	Graduate & undergraduate students	M, F, SD	f (893) m (224)	15 (not reported)	Feminine factor, Masculine factor 1, Masculine factor 2, M-F, Positive factor, Negative factor, Negative factor 2, the remaining 8 factors were uninterpretable.
4	1983	Teachers age 24-60	M, F	f (44)	2 (36.9%)	Masculinity, Femininity
5	1985	Senior center member age 60-90	M, F, SD	f (257) m (107)	9 (not reported ) 8 ( not reported)	Resourceful/Competent, Feminine, Bitterness/Anger, Achievement orientation, Adventurous/risk-taking, Self-reliance/nurturing, activity/involvement w others, Dominance, Assertive/loyal Feminine, Sensitivity, Resourceful/competent, Achievement orientation, Leadership, Bitterness/Anger, Dominance, Kindness
6	1985	Dual-earner married couples	M, F	f (489) m (489)	11 (58%) 11 (57%)	Assertiveness, Sensitivity, Independence, Takes Risks, Competition, Loyalty, Softspoken, Childlike, M-F, Analytical, Gullible Assertiveness, Tenderness, Independence, Sensitivity, Competition, M-F, Analytical, Harshness, Softspoken, Flatterable, Gullible
7	1994	Volunteer adults age 18-91	Modified M, F	f (388) m (283)	10 (not reported)	Masculine, Interpersonal Affect, Decisive, Shy, Self-sufficient, Athletic, Analytic, Dominant, Compassionate, Feminine

1. Pedhazer and Tetenbaum; 2. Sassenrath and Yonge; 3. Gruber & Powers; 4. Bledsoe; 5. Windle & Sinnott; 6. Hiller & Philliber; 7. Blanchard-Fields, Suhrer-Roussel and Hertzog.

Based on CFA of BSRI responses from 791 graduate and undergraduate students, Campbell, Gillaspay Jr., and Thompson (1997) reported that the "fit" of a two-orthogonal-factor model was significantly better than that of a bipolar factor model. However, the model fit statistics accepted by the authors would have been deemed unacceptable using current model fit index standards. The authors also acknowledge that "... more complex models may be necessary to describe more adequately the phenomena being measured.

Blanchard-Fields et al (1994), based on 671 adults with ages ranged from 18 to 91 (mean = 39.34, SD = 16.86), reported a four-factor model, similar to that reported by many EFA studies. They also reported that the four-factor model provided significantly better fit of the observed data than the two-factor model. However, additional factors were required to provide a better fit of the observed covariance matrix. Their final choice was a ten-factor model based on the superior fit indices generated by the model. Of the ten factors, three were single item factors: Masculine, Feminine, and Analytical; the other factors extracted were: Interpersonal affect, Decisive, Shy, Self-sufficient, Athletic, Dominant and Compassionate.

To summarize, both EFA and CFA studies have reported a variety of factor structures extracted from the BSRI responses. Additionally, the BSRI items have been found to correlate differently and loaded on different factors among various studies. These results suggested that the relationship between the items appeared to differ from study to study or from sample to sample. The only consensus one can conclude from these studies is that responses to BSRI items could not be interpreted by two independent constructs.

### **Group invariance studies of BSRI**

Studies of factorial invariance are a recent research development. Factorial invariance addresses the issue of similarities and dissimilarities in the factorial

composition between different groups, groups that differ in gender, ethnicity, age, culture, or other distinct attributes. Simply put, factorial invariance is said to exist when different group's responses to the same instrument display similar factorial results, e.g., same factor structure and loadings.

What may be inferred from group invariance results are that different groups of respondents interpret or ascribe the same meanings to the questionnaire items, and more importantly but more indirectly, that the sub-populations associate the items with the same underlying construct(s). Following the same reasoning, factor analysts would argue that if the same items mean significantly different things to different groups, it can be expected that these differences will be reflected in the factor loadings. It has also been proposed that if factorial invariance does not exist, i.e., different groups display different factor structures and/or different factor loadings, then the construct being measured by the instrument may mean different things to different groups.

With regard to the BSRI, the most relevant "groups" would be gender groups, i.e., can factorial invariance be established across gender groups. In other words, do the factor structure and loadings based on female subjects' responses to BSRI differ significantly from those based on male subjects' responses? Sassenrath and Yonge (1979) based on the long form BSRI responses from 535 female and 361 male undergraduate students, reported six factors for both men and women: Nurturance, Dominance, Autonomy, bipolar M-F, Competition and Leadership. Using the long form and responses from 400 female and 161 male graduate students, Pedhazer and Tetenbaum (1979) reported four factors emerged from both the female and the male sample solutions. However, the authors maintained that these four factors are sufficiently different from each other that patterns of self-ratings on BSRI differed between the two gender groups.

Using the coefficient of congruence to compare the similarity of factor patterns extracted from different samples, Belcher, Crocker and Algina (1984) reported that only one (out of ten) coefficient from the male-female comparisons reached the similarity criterion, whereas three coefficients from the female-female comparisons reached the similarity criterion. Based on this finding, these authors questioned whether the same instrument can be used to measure sex role perceptions of males and females.

With the advancement of CFA technique, studies of the factorial structure underlying BSRI responses have shifted toward hypothesis testing. Forcing the factor loadings to be equal for males and female responses, Blanchard-Fields et al. (1994) failed to reject the hypothesis of equivalent factor loadings for the two gender groups, i.e., the factor structure was invariant across gender groups. However, the certain correlation patterns differed markedly between male and female participants. For instance, for male subjects, self-ratings on the item “Masculine” correlated positively with ratings on “Interpersonal affect” and “Compassionate” factors whereas for female subjects self-rated Masculinity was negatively correlated with “Interpersonal affect” and “Compassionate” factors.

To summarize, group invariance studies also produced inconsistent results. There are studies reporting group invariance of the BSRI factor structure. There are also studies suggesting the opposite. Constantinople (1973), who was on the frontier in challenging the bipolar view on masculinity and femininity, and whose theory stimulated the research interests for decades to follow, warned that the two constructs are multidimensional and might be too complex to be adequately captured by an instrument.

### **Criticisms of BSRI**

The assumptions of the constructs of masculinity, femininity, and androgyny as measured by BSRI had been challenged both on theoretical and empirical grounds.

Absence of theoretical definitions of the constructs was a serious concern raised by Pedhazer & Tetenbaum (1979). Without theoretical definitions or clarifications of the constructs being investigated, argued these authors, the construct validity can not be assessed. Since the selection of BSRI items and the designation of items as masculine, feminine or neutral relied exclusively on statistical analyses of the sample students' opinions, in these authors view, therefore, the BSRI at best only measures gender related trait stereotypes. These authors also questioned the adequacy of summative scoring when there was no evidence that each subscale was uni-dimensional. The matter became even worse when the factor structure of the self-rating scores was found to be inconsistent with the factor structure of the desirability ratings of items applied to a referent. In other words, factor analyses results suggested more dimensionalities were at play when ratings were applied to oneself than when applied to a generic referent.

Locksley and Colten (1979) called the construct of psychological androgyny “a case of mistaken identity” due to both theoretical and methodological problems underlying BSRI (and other similar instruments). They questioned whether the constructs of masculinity and femininity can be defined by stereotypical, gender-differentiating traits when these differences may very likely be linked to the family or work roles commonly occupied by each gender. They also have doubts about whether the BSRI can measure individual differences in masculinity and femininity when it was developed based on perceived aggregate gender differences. These authors believed that “the conceptual and referential context” in which self-evaluation is made would be entirely different from the context in which judgments are made about others such as the typical man and the typical woman.”

Belcher et al (1984) were skeptical whether BSRI assesses the same traits for the two genders and questioned whether the instrument can be used to measure sex-role perceptions for both men and women.

The most systematic and severe attack on BSRI came from Spence (1984). The criticisms were fundamental and extensive. Essentially and uniquely, Spence criticized Bem's conceptualization behind BSRI for her failure to make the theoretical distinction between personality traits and roles. Spence contended that traits are properties of individuals that are relatively stable but sensitive to situational factors; whereas roles referred to positions in social structures and include characteristics such as responsibilities, privileges, and imposing rules. Spence argued that BSRI items did not include anything related to sex-roles such as attitudes or expectations, and consisted primarily of socially desirable personality traits. Additionally, responses to these trait items, statistically, formed two orthogonal clusters, namely, self-assertive and interpersonally oriented traits. As such, Spence agreed that BSRI provides useful measures of two specific clusters of gender-differentiating personality traits. Correspondingly, Spence was critical of the commonly held position and practice that BSRI measured something more than the personality traits (i.e., that the instrument measures general constructs such as sex role identification or masculinity and femininity, and that the instrument can be used to explore implications of these global constructs). To declare that an instrument is measuring the more general constructs of masculinity and femininity or sex role identification, argued Spence, one must at least show certain expected patterns and magnitudes of relationships with other self-report and behavioral measures of these constructs. Spence claimed that research results showed little or no support that the BSRI measures the global self-images of masculinity–femininity or sex role identification. For instance, Spence pointed out that the correlations between the

BSRI Masculinity and Femininity scores and scores on the Attitudes toward Women Scale (AWS) although in the expected direction, are trivial in size ( $< \pm .15$ ) (Orlofsky, Aslin, & Ginsburg, 1977). Spence also claimed that the behavioral correlates with the Masculinity and Femininity scores are inconsistent or small in size. She also pointed out that there was no evidence that individuals have independent self-images of their own masculinity and femininity as the BSRI Masculinity and Femininity scores claimed to reflect. In fact, responses to the two items "masculine" and "feminine" (the two most face-valid measures of masculine and feminine self-concepts) in BSRI were found to be substantially but negatively correlated within each sex group and, in factor analysis, to form a separate bipolar factor as reported in many factor analysis studies mentioned before. Spence disagreed with the conceptualization of masculinity and femininity as two independent constructs because it is incompatible with the sex role identification construct, which Spence considered to be uni-dimensional.

More recently, based on their confirmatory factor analyses results, Blanchard-Fields et al (1994) reported successfully identifying Masculinity and Femininity as second-order factors. Similar to Spence's position, Blanchard-Fields et al suggested that the construct of sex role or identification would be best conceived as multifaceted and that BSRI measured only one component (personality traits) of the complex multidimensional construct. Gender role orientation may be affected by additional factors which were not captured by BSRI, suggested these authors, such as one's attitude, interests, abilities, social relationships, etc. that would be triggered in certain social context (Ashmore, 1990).

In response to the criticisms, Bem (1979) argued first that BSRI was constructed based on specific theoretical assumptions. The theoretical framework that underpinned her research, she maintained, was that masculinity and femininity were two mutually



exclusive clusters of attributes formed through historical cultural forces. Each cluster was considered to be more characteristic of and desirable for the respective gender. These cultural prescriptions and expectations of gender related appropriateness were widely known to practically all members of the culture. However, members of the culture differ from one another in the extent to which they adopt these cultural definitions as standards against which their self perceptions and behaviors are evaluated. Bem argued that BSRI items were constructed by "native informants" and thus captured the cultural definitions of the desirable attributes for each sex. Consequently, Bem maintained that BSRI assesses "the extent to which the culture's definitions of desirable female and male attributes are reflected in an individual's self-description" (p. 1048) and, consequently, measures masculinity and femininity as defined by the culture.

Bem also explained that her theory does not require the two constructs masculinity and femininity be uni-dimensional. Therefore, she did not find the multifactor structures reported by many researchers troublesome. However, she did acknowledge that some of the factor analyses results were unexpected and warranted further refinement of her scale. For instance, the gender correlated bi-polar factor mainly defined by the items "masculine" and "feminine" was unanticipated by her theory. Additionally, some of the feminine items (e.g. "yielding," "shy," and "soft-spoken") did not load on the feminine factor or even loaded negatively on the masculine factor. The low social desirability of some of the feminine items was also conceded by Bem to be inappropriate to measure the concept of androgyny, since the concept was proposed to be associated with adaptability and mental health (Bem, 1974). As a result, Bem eliminated the two items "masculine" and "feminine" along with other items that were judged to be the lowest in social desirability in the revised short BSRI.

In summary, criticisms of the instrument centered on whether BSRI measures what Bem claimed it to measure, i.e., sex role orientation, and mainly due to the fact that the development of the instrument was not based on any theoretical framework. Issues were raised regarding the uni-dimensionality and independence of the two constructs masculinity and femininity, the nature of the construct androgyny and its measurement, and the scoring method. Bem accepted some of the criticisms and revised her instrument but continued to defend the scale BSRI as tapping into the cultural definitions of masculinity and femininity (1993). Perhaps for that reason, the scale has remained to this day a widely used instrument in research concerning gender role and gender related issues.

### **Popularity of BSRI**

Lenney (1991), in her review of six major sex role measurement instruments, stated that BSRI was the most frequently used sex role instrument. It has also been used in other countries and cultures (e.g., Australia, China, England, France, Germany, India, Malaysia) (Segall, 1986). Since its publication in 1974, BSRI has been used in various research studies and has remained a popular measurement instrument to this date. The applications of this instrument in research can be grouped into four major categories. To show how BSRI has remained a main-stream gender role instrument, most examples selected for each category are recent publications.

### ***BSRI as an independent measure or predictor***

A large amount of studies in late 70s and early 80s had used BSRI scale scores to predict mental health indices. Whitley (1985)'s meta-analysis of this type of studies indicated large and consistent relationship between psychological adjustment and masculinity and small or no relationship with femininity. More recently, the BSRI

continues to be used to classify subjects into gender types. Comparisons among these groups are then made on some dependent measures. For instance, to study the effect of gender typing on motives for and actual sport participation, Koivula (1999) used the BSRI to categorize subjects and subsequently compared group differences on actual sport participation time and the motives given. Endo and Hashimoto (1998) reported Androgynous and Masculine groups, as classified by the BSRI, have higher self-reported Self Actualization Scale scores than the Feminine and Undifferentiated groups.

### ***BSRI as a dependent measure for hypothesis testing***

To test the hypothesis that prenatal gonadal hormones plays an important role in the development of sex-role orientation, Csatho, Osvath, Bicsak, Karadi, Manning and Kallai (2003) administered BSRI to female university students to measure subjects' sex-role identity. The influences of siblings on the development of sex roles were explored by using the BSRI as the measurement instrument (Colley, Griffiths, Hugh, Landers & Jaggli, 1996). To test the hypothesis that nursing feminizes male nurses, the BSRI was administered to both male and female nurses (McCutcheon, 1996).

### ***BSRI as a dependent measure to correlate with other construct measures***

The BSRI scores have been used to study the relationship between masculinity, femininity and criminal thinking in federal prison inmates, (Walters, 2001). The scores were correlated with the Psychological Inventory of Criminal Thinking Styles scores. The BSRI has also been applied to study the relationship between gender role orientation and crying behavior (Lombardo, Cretser & Roesch, 2001); between gender orientation, gender stereotype and sexist attitude (Spence & Buckner, 2000); between gender orientation and mystical experience (Mercer & Durham, 1999); between masculinity and aggressive behavior (Weisbuch, Beal, & O'Neal, 1999); between gender differences and

depression (Marcotte, Alain & Gosselin, 1999); between gender role and eating problems (Murnen & Smolak, 1997); between gender orientation and health behavior (Shifren & Bauseman, 1996); between gender role and executive function (Norvilitis & Reid, 2002).

### ***BSRI as a validity study tool***

BSRI has also been repeatedly used in validity studies to assess the measurement validity of newly developed instruments. For instance, to establish the validity properties of their instrument Personality Research Form ANDRO scales (PRF ANDRO), developed to measure psychological androgyny, Berzins, Welling and Wetter (1978) reported (1) “substantial” (as claimed by the authors) correlation (.50 - .65) of their PRF ANDRO Masculinity and Femininity subscales with the corresponding BSRI subscales; (2) similar EFA results between the two; and (3) expected convergent/discriminant correlation patterns. Based on these findings, these authors declared evidence for content and construct validity of the measurement of their instrument. Measuring connected and separate knowing styles, Knight, Elfenbein and Messina (1995) reported certain correlation patterns between the Knowing Styles Inventory subscale scores and the BSRI factor scores to provide construct validity evidence. More recently, Henley, Spalding and Kosta (2000) used BSRI in their validity study of the Feminist Perspectives Scales; Choi (2003) used BSRI to establish the factorial validity of his Self-efficacy Scale.

In summary, the BSRI has remained a popular instrument since its development three decades ago. It continues to appear in journal articles as an important instrument for quantitative studies regarding gender differences and other gender related issues.

### **Comparing BSRI and PAQ**

On the surface, BSRI and PAQ shared many features: both originated from the dualistic conceptualization of Masculinity and Femininity; both addressed the concept of

androgyny, and both (eventually) used the same scoring procedures to yield the same four sex types. On the other hand, Bem (1981) regarded BSRI as an instrument that tapped into the global concept of masculinity and femininity, Spence (1984) insisted that PAQ only measured the domain of socially desirable instrumental and expressive personality traits and renamed the subscales (e.g., M scale) to avoid unintended surplus meanings attached to the original labels (e.g., Masculinity scale). Probably because of the superficial similarities of the two instruments, it is not surprising to find most researchers regard and use the two instruments interchangeably since their development (Kelly, Furman & Young, 1978; Spence, 1984), despite the theoretical disagreement between the two scale authors.

The comparisons of the two scales had been approached by studying the correlations between the two scale scores, by examining factor analysis results, or by investigating the agreement or discrepancy of the sex group classification results.

### ***Correlations between BSRI and PAQ***

The first study that looked into the scale comparability was reported by Kelly, Furman and Young (1978). In addition to BSRI and PAQ, they also included two other instruments PRF ANDRO (Berzins et al, 1978) and the Masculinity-Femininity scales of the Adjective Check List (ACL, Heilbrun, 1976). Based on responses from 65 male and 65 female undergraduate students, these authors reported “moderately high” correlations with the mean correlations of .71 and .62 for the M and F scales. The Pearson product-moment correlation between BSRI and PAQ was .85 and .73 for the M and F scales.

Spence and Helmreich (1978) reported correlations between BSRI and PAQ parallel Masculinity scale scores to be .75 for male subjects and .73 for female subjects; and between the parallel Femininity scale score, .57 and .59, respectively. These authors claimed that the lower correlations found on the Femininity scales were largely attributed

to the heterogeneous items included in the BSRI Femininity scale. Lamke (1982) used adolescent subjects, and reported BSRI and PAQ correlations of .78 and .86 for the M and F scales.

When the short form BSRI was correlated with PAQ, Lubinski, Tellegen and Butcher (1983) reported that not only were the Masculinity scales substantially correlated ( $r = .72$ ), but also the Femininity scales ( $r = .75$ ). Marsh and Myers (1986) warned that the observed high correlations between the two scales could be spurious due to the social desirable nature of the scale items.

When the correlations between the scales were investigated along with the item content in each scale, a simple conclusion can be reached: the magnitude of the correlations depends on the similarities of the item content, the more similar the items are (in terms of the content), the larger the correlation (Spence, 1984).

### ***Factor analyses results***

As mentioned before, a well accepted consensus was that BSRI scores are better fitted by a multi-factor model. Factor analyses of the short form BSRI responses, on the other hand, generated two relatively orthogonal factors that can be described as instrumentality, assertiveness or dominance, and expressiveness, interpersonal sensitivity, or nurturance (Payne & Futterman, 1983). The short form BSRI is thus similar to PAQ and was reported to generate a single factor structure for each subscale.

### ***Classification agreement/discrepancy between BSRI and PAQ***

Kelly et al (1978) also compared the classification results among the four scales: BSRI, PAQ, PRF ANDRO, and ACL. When the undergraduate subjects' scores were dichotomized by the median split method and subjects were classified into one of the four sex group types, the authors reported low classification agreement rates. When corrected

for chance agreements, the majority (61%) of the classifications were discrepant. The discrepancy percentage between BSRI and PAQ was reported to be 39.2%, and 62.1% after correcting for chance agreement. Based on these results, the authors questioned the comparability of sex role research findings based on different instruments.

In summary, the correlation and factor analyses results suggested the comparability of the short BSRI and PAQ scales. Spence (1984) claimed that “for most purposes, the PAQ and the short BSRI M and F scales probably can be treated as interchangeable.” (p.16).

### **READING THE BSRI ITEMS**

Items included in the BSRI are unique in certain ways. Most of them are single word descriptors (e.g., "Independent") or general phrases (e.g., "Defends own beliefs") . The items are to be read in reference to the self. The items in the Masculinity and Femininity subscales consisted of stereotypical characteristics related to each gender (according to Bem, her students, and sample subjects attending Stanford University at the time) and therefore, are socially and culturally "loaded," or there are social cultural interests in them. These features provide some clues to what could be potentially present at the reader-text transaction zone while the respondent reads each item.

### **Meaning in context**

Despite the common belief or assumption that words must have fixed, abstract meanings (perhaps due to the concept of dictionaries), reading and/or comprehension research has proposed and demonstrated that the meaning of a word shifts from context to context.

The notion that words don't have a fixed meaning was first argued by the philosopher Wittgenstein (1965) in the 50's. He proposed the inherent association

between the meaning of a word and the context in which the word appeared. The essence of Wittgenstein's point might best be reflected in his motto "don't ask for the meaning, look for the use." He used the word "game" to illustrate his point. He pointed out that the meaning of the commonly understood word "game" can only be inferred in a context, whether the word is referring to a sport event, a chess game, a card game, or to children's games, etc. The flexible and variable nature of word's meanings has been demonstrated by many researchers using different words: eat (Anderson & Ortony, 1975; Weinreich, 1966), cup (Labov, 1974), red (Haliff, Ortony, & Anderson, 1976), held (Anderson, Pichert, Goetz, Schallert, Stevens, & Trollip, 1976), etc..

Anderson and Ortony (1975) further pointed out that even if the word has very similar meanings in different uses, the understanding, the sense, or the mental representation of it may still be quite different in each case. For instance "eating a steak" will be understood to involve a knife, a plate, chewing, etc. which will be different from what is understood in "eating soup" and "eating an apple." "The container held the apples" will convey a different message from what is conveyed by "The container that held the cola;" and "the pianos can be pleasing to listen to" are referring to something not at all like "the pianos are difficult to move." If words can be said to have fixed meanings, it is only in a loose, abstract sense that they do. At this level, a word is an imprecise description with many potential interpretations based on our accumulated knowledge of the world relevant to the word. As the context is identified and focused, so will the meaning. Anderson and Ortony proposed that sentences or utterances can only be comprehended through the construction of "particularized and elaborated mental representations" of the words that constitute the sentence or utterance. Specifically, they argued that

- words only loosely constrain the construction of the mental representation;



- the construction of the mental representation of the words draws on one's existing knowledge of the world and the product is usually richer and more unique;
- the nature of the representation of the words also depends on the analysis of the context.

The process of inferring or articulating the meaning of a word, based on one's analysis of the context of the use and one's existing knowledge of the world, is called "instantiation" (Anderson, Pichert, Goetz, Schallert, Stevens & Trollip, 1976). Anderson and Schiffrin (1980) further maintained that it is through the process of instantiation that we can understand "the truncated descriptions" to which we are constantly exposed in our daily lives. The context-sensitive aspect of word meanings and the instantiation perspective on meaning construction had been consistently demonstrated by studies using adult subjects and various tasks and measures (Anderson & Shiffrin, 1980).

Along the same line, the sociocultural perspective on meaning construction and reading presented earlier also argued for an essential role context plays in the construction of meanings. For instance, Gee (2000) suggested meanings are mid-level generalizations which are situated in one's prior social cultural experiences. Similarly, Smagorinsky (2001) emphasized that text is never interpreted alone. It is always interpreted within some social, cultural context such as values, goals, and practices (which can be idiosyncratic among individuals due to the presence of cultures within a culture).

If context analysis and our world knowledge (which came from our life experiences) are the two key elements in the construction of meanings, is it reasonable to expect them to play similar roles in the task of reading the BSRI items? Without referring to the reading comprehension theories, Locksley and Colten (1979) suggested that the

endorsement of a BSRI item may depend on the cumulative effects of respondents' past experiences and/or on the personal dispositions. These authors suggested that past experiences may provide the conceptual context in which interpretation and judgments are made about oneself. More specifically, these authors claimed that there might be many "prototypes" the reader associated with an item. (For instance, the conceptual structures of the word "independent" when applied to a person, may be about a person's physical feature, psychological strength, financial status, or behavioral disposition.) Self perception or evaluation on an item might depend on the particular "prototype" that was activated at the time.

There are some studies demonstrating that context specified by the researcher did change respondents' responses to BSRI items. For instance, Dailey and Rosenzweig (1988) asked 500 male adult subjects to complete BSRI under the general instruction as well as under three additional scenarios created by different situational descriptions (e.g., a work situation on a typical day, a recent typical social event such as gathering with friends, and a recent romantic involvement with a partner). The study reported significant interaction effect between self-ratings on BSRI and the situation. The change across situations or contexts was also reflected at the level of sex typing categories, e.g., from being "androgynous" at work to being "feminine" in social gathering. Similarly, Smith et al. (1999) asked 275 undergraduate students to rate themselves on BSRI under six different "context" instructions: being a student at school, being at work, being at home, socializing with same-sex friends, socializing with opposite-sex friends, and in a social situation where the subject does not know many people. The results showed significant "context" effects at the score level for both male and female subjects. The percentage distribution of the gender types also changed across situations. There was no inferential statistic performed, however.

Uleman and Weston (1986) reported similar effects when they instructed their subjects (41 parents with infant children and 76 undergraduates) to complete BSRI several times in different roles (e.g., as a parent, as a student, as a boyfriend/girlfriend).

To summarize, findings from these studies supported the proposition that context plays an important role in the outcome responses, if not reading comprehension. As suggested earlier, a word can have similar meanings but convey different messages. Similarly, we can expect "independent as a parent" to carry different information than what's conveyed by "independent as a student." Since the only context specified by the BSRI scale instruction is to read each item in reference to self, a reasonable conclusion is that the reader will create his own context analysis based on his personal experiences and life history, which are always further situated in social cultural setting and practices. This means, potentially, each item can be situated differently by different readers. A fulltime housewife may frame the same item in totally different context from what a policeman would, as an example. In light of the multidimensionality of the masculinity and femininity constructs emphasized by many authors (which will be reviewed later), both theoretical propositions and empirical findings support the need to explore the context and the meaning construction process that take place while the respondents read the scale items.

### **Activation of social schemas while reading the scale**

What life experiences or social schemas can be potentially present at the reading zone to frame or set the scope of the interpretation of each item? One ideal candidate in this case is the gender related experiences or gender schemas.

### ***(1) Gender schemas***

The distinction between male and female has been well observed in practically every culture or society. The differences are reflected not only physically such as the kind of clothing each sex wears, they are also noted in terms of the behaviors, tasks, and roles each sex exhibits or assumes. Although the specific distinctions between the two sexes may differ from culture to culture, it is safe to say that within each culture, a person's life is impacted, in many ways, by his or her biological gender. Given the central role the biological sex plays in a person's life, it seems reasonable to expect the effect to surface cognitively, during text interpretation.

Bem (1981) proposed the gender schema theory to account for the observed differences between men and women. Her theory contended that individuals living in a gendered society become gendered through the development of gendered cognitive processing. Specifically, there are three key constructs in her theory: gender polarization, gender construction, and gender schema as the bridge between the first two. Bem described gender polarization as the "ubiquitous organization of social life around the distinction between male and female" (Bem, 1993, p.80). She claimed that gendered polarization started at the social/cultural level as many institutions have historically forced the divisions along the gender line. For example, throughout history, not only was this endorsement and practice observed in the fields of education, media, law, and religion, they were also absorbed in the scientific fields of medicine, psychology, and psychiatry as reflected in their theories and research. By writing and imposing, socially and culturally, the mutually exclusive script for each gender, gender polarization is reflected at the individual level. Bem called this process gender construction. What made this construction possible, explained the theory, is the individual's development of

gendered schema, or the cognitive structure that channels the polarized world into the individual's gender being.

Bem claimed that individuals growing up in a gender polarized society learn to adopt the cultural lens by learning the information, the behavior and/or the attributes associated with the biological gender. Being a member, the individual internalizes the cultural worldview, and learns to view reality dichotomized along the line of biological gender. Bem described this internalized social lens as “a generalized readiness” to encode and organize information. These internalized gender lenses also guide or predispose the children, and later the adult, to construct a gender identity that is consistent with the gender polarized world. They learn the socially defined gender appropriateness and behave accordingly and reject those that do not match the social standards. Bem further maintained that the transfer of the polarized lenses from the culture to the individual is a process of enculturation, which is not different from other social enculturation in which social cultural lenses are assimilated by the individual through daily social experiences deeply embedded in social practices.

Based on schema theory, gendered schemas would lead to gender-based information processing. Several studies reported findings supporting such a view. For instance, Koblinsky, Kruse, and Sugawara (1978) found that children's recall of masculine information about men and feminine information about women in stories were significantly better than memory for cross-sex descriptions. Bem also conducted her own studies to support her proposal. For instance, when words selected from four categories (male or female names, male, female or neutral clothing articles, verbs, and animals) were randomly presented to the subjects, the conventionally gendered subjects (feminine female or masculine male) recalled differently. They clustered significantly more words by gender than did other subjects, indicating conventionally gendered individuals were

more likely than others to organize information in terms of gender. In another study (Frable & Bem, 1985), subjects listened to a group discussion and were asked afterwards to recall who said what. The authors reported that conventionally gendered subjects were more likely than others to erroneously attribute male discussions to other males (than to females) and statements made by females to other females (than to males). The results also suggested the gender centered perceptual and conceptual processing, or the operation of gender schema, among the conventionally gendered people.

Bem (1982) maintained that gender schema provides individuals with a "generalized readiness to encode and organize information - including information about the self - in terms of the culture's definitions of masculinity and femininity." It would follow that there will be some involvement of gender schema in the interpretation of text. Such an assertion is justified or supported by several sources of evidence. Studies (Bem, 1981; Daly, Salters, & Burns, 1998; Markus, Crane, Berstein & Siladi, 1982) have reported systematic differences in cognitive performances among subjects with different gender schemas, i.e., feminine subjects recall more feminine words, provide more examples of past feminine behaviors, shorter response time when choosing feminine words as self descriptors etc., and vice versa. More directly, the relationship between gender and the text world were demonstrated by gendered reading and writing (or text producing) (Ainley, Hillman, & Hidi, 2002; Cherland, 1994; Luke, 1996; Walkerdine, 1986) in terms of what each gender reads or writes, how they read and what they get out of the act (e.g., girls reading fiction to construct their identity). Davies (1989) also demonstrated that when listening to or reading stories, children tend to align themselves with characters of their own gender and to interpret the text from that viewpoint. When children were presented with texts which are inconsistent with gender stereotyping, they sometimes have difficulty comprehending the content.

Factor analysis may be described as the quantitative researcher's attempt to address or uncover meanings - by identifying the components of a construct. As described previously, factor analysis and group invariance studies have reported different results. Pedhazur and Tetenbaum (1979) were the first researchers to conduct factor analyses separating the responses from the two gender groups. They reported different factor structures or dimensions between the two groups. Inspired by this finding and other discrepant findings reported for males and females in the BSRI validity studies, Belcher, Crocker and Algina (1984) further investigated the factor patterns extracted for each gender group. These authors also reported different factors for the two groups. They concluded that there are "obvious differences between males and females in response to the BSRI." They suggested the possibility that a person's "gender not only helps to determine one's sex role but also contributes to the perception of the different patterns of characteristics comprising sex role" and that "even when a man and a woman display identical scores on the BSRI subscales, it does not follow that their sex-role perceptions are identical." These authors questioned whether the BSRI (or any sex role measurement instrument) is measuring the same underlying constructs in men and women, and whether the same instrument can be used to measure the perceived sex roles in both men and women.

Blanchard-Fields, Suhrer-Roussel and Hertzog (1994) compared the factor correlation matrices extracted from male and female responses to the BSRI. They found factor correlation patterns differed markedly between the male and female samples. For instance, males who view themselves as masculine are more likely to also rate themselves as interpersonally sensitive and compassionate than females who rate themselves masculine. The observed correlation pattern differences were suggested by the authors to

reflect different meaning interpretations of the same characteristic by different gender groups.

These finding also lends support to the need to investigate further the role gender or gender schemas can play in reading and interpreting the BSRI items.

## ***(2) Self schemas***

Markus (1977) proposed the construct of self schemas to describe the cognitive structures that we developed about ourselves by organizing the self-related information such as abilities, appearances, preferences, achievement, that we accumulated from our experiences. She maintained that these self-knowledge structures or framework help us categorize, explain, understand, and evaluate our behavior in various situations and domains. Because self-schemas are built from our past experiences, she also assumed that we vary enormously in the content and organization of our self-schemas. However, there are also some aspects of our experiences that are widely shared and will inevitably become one of the common self-schemas. Markus proposed gender as one domain in which self-schemas are common. Markus, Crane, Bernstein, and Siladi (1982) reported systematic differences in cognitive performances among individuals identified as masculine schematic, feminine schematic, high androgynous, and low androgynous. For instance, masculine schematic individuals recalled more masculine than feminine attributes, endorsed more masculine qualities, took shorter time to make self judgment to the masculine attributes than to others, were more confident of their judgments, and were able to supply relatively more examples of past masculine behavior. Based on Markus' theory, different self-schemas will be activated in different situations and different domains.

Pedhazer and Tetenbaum (1979) reported different factor structures between the desirability ratings and self-reports of the BSRI items, suggesting the existence of



different cognitive processes when reading the same items for different references. Similarly, Locksley and Colten (1979) maintained that "the conceptual and referential context in which judgments are made about the self is entirely different from the context in which judgments are made about such abstractions as the typical man and the typical woman."

If some self-schemas are always activated during self-relevant information processing, we can reasonably expect them to play a role in the interpretation of scale items with regard to self evaluation.

### ***(3) Other schemas or knowledge structures***

Results from factor analysis studies based on older subjects indicated a much more complex BSRI factor structure. For instance, Windle and Sinnott (1985) based on a sample of 107 males and 257 females 60-90 years of age have reported factor structures very different from those reported in studies using younger subjects. In fact, the authors extracted eight factors for their males subjects and nine factors for the female subject responses. Marsh and Myers (1986) had to modify some BSRI items for their adolescent subjects because they were "found to be beyond the vocabulary range." One potential explanation for the observed differences in factorial structures between different age groups is that the items mean different things to different age readers. Sinnott and Windle (1986) suggested that our perceptions of sex-role may change as we grow older. In an earlier study, Feldman, Biringen and Nash (1981) reported the effect of stage of family life (or the demand characteristics of various life situations) on the BSRI responses.

Similarly, Harris (1994) reported the desirable ratings of the BSRI items differed significantly among the three cultural groups: Anglo, Hispanic, and African, suggesting ethnic culture as a contributor of sex role identity.

In reviewing various factor analysis studies, Choi and Fuqua (2003) noted that as the sample characteristics changed (i.e., to different age groups, to non-students, to foreign country subjects) "there was a certain degree of variation in the factor structures of the BSRI." One characteristic of importance here may be the differences in life situations and the corresponding demand and practices. When reading and interpreting the BSRI items, it seems reasonable to expect the knowledge structures built from life experiences to surface - for instance, to expect the elder to situate the meaning of each item in perspectives different from those of the younger subjects.

### ***Summary***

Review of various studies has suggested several factors may influence the way the respondents interpret the BSRI items. Fundamentally, context is required for meaning construction. Sociocultural view on reading emphasizes the important role social or cultural schemas play in reading comprehension. Since each BSRI item contains either a single word or a general phrase, context is thus self-generated by the reader, perhaps by the schemas a reader brings to the reading task. Gender schemas and self-schemas, which are the product of sociocultural experiences, are two likely candidates that might enter into the reading zone to frame the interpretation of the items and influence the construction of meaning.

### **INTEGRATIVE SUMMARY**

When psychologists adopted the positivist research paradigm to study human phenomena, they also adopted the assumption that humans can be controlled or manipulated and measured the same way objects are measured by the natural scientists. The "black box" philosophy advocated and practiced by the behaviorists illustrates such a position. Alternatively, some psychologists/researchers over time have adopted a new

perspective which acknowledges the agentic nature of the human mind and its inseparable relations to the social cultural forces. This view empowers the respondents with the ability to actively construct meaning using resources appropriated over time and across social, cultural spaces. Specifically, the socio-constructive perspective views the human mind/cognition to be inseparable from the social: Through language and other mediational tools, our mind develops socially and continues to function and transform through constant interactions with other minds. Social models, storylines, cultural and subcultural values and practices are assimilated into our cognitive processes.

If we accept the view that mind is agentic and social, then we can easily accept the proposition that how we make sense of the world and of our daily encounters must also be inherently situated in our shared or unique social and cultural experiences. This new perspective of human mind distinguishes human subjects from objects and challenges the assumptions that they can be manipulated alike.

Scholars from various disciplines have converged on the view that the meanings of words are always embedded in the context. The socio-cultural view on reading implicates the social practices and life experiences the reader inevitably brings to the reading task to construct meanings in context or for the act of instantiation. This view questions the existence of a literal or official meaning of any text, including that of the scale items. As such, respondents' meaning construction of scale items deserves to be investigated.

The BSRI is selected as the instrument for the current investigation. It is selected for the socially embedded construct (gender role) the instrument claims to measure; for its importance as a measurement instrument over three decades despite criticisms; for its intriguing findings reported by factor analysis or group invariance studies. Results from

these studies suggested the possibility that the BSRI factor structures or correlation patterns may not be age and/or gender invariant.

Cognitive psychologists proposed schemas to explain what guides our attention and frames our interpretation when we read. Schemas are cognitive or knowledge structures we build on our past experiences. Many schemas are of a social nature. Gender schemas have been proposed by the author of the BSRI to account for the observed gendered processing (as a result of the deeply rooted gendered practices prevailed in any culture). Self schemas have also been proposed to explain how we understand, explain and evaluate our selves in certain domain. These schemas are potentially at play when respondents are reading the BSRI items.

The current proposal is interested in adopting the socio-cultural view on reading and schema theory to investigate respondents' interpretation of the BSRI items, as well as their construction of the concepts masculinity and femininity.

### **THINK-ALOUD PROTOCOLS**

The current research will use think-aloud method to explore the respondents' cognitive processes. The method and the justification for the selection will be presented next.

A research protocol is a sequential recording of activities that took place when a task of interest is being performed. Through the analyses of the recorded information, the researcher may gain better understanding of or may infer how the task of interest is being performed in sequence and/or in detail. For instance, motor protocols of the task of walking of healthy persons may reveal how walking is commonly performed in sequence; eye movement protocols can trace the movement of the eye and may be used to infer the reading speed of a subject.

Protocols can also be of linguistic nature. It has been widely applied to the study of cognitive activities. This type of research often require subjects to “think” aloud, i.e., to verbalize what they are thinking while performing an algebra problem, a reading comprehension task or writing task, for examples (Olson & Torrance, 1996). Verbal reports can be recorded and analyzed to gain understanding of mental processes that could otherwise only be inferred.

Relying on verbal reporting as a way of investigation is not a new idea. Introspection, which is a form of verbal reporting, was a common research method in psychological studies before the rise of behaviorism. The method had since been abandoned due to the desire to adhere to the new positivistic research standards (e.g., objectivity and verification). The revived interests in verbal reports may be attributed to the shift of the research interests and focus, during the cognitive psychology era, from the “observed” to the intermediate steps or the “in-between” mental processes. In the well received and widely quoted article, Ericsson and Simon (1980) defended verbal reporting as a legitimate research method and data.

Ericsson and Simon also categorized verbal reporting based on the timing of the reporting. The act of verbalization may be parallel or concurrent to the mental processing (e.g., what is being attended to) which takes place while the reporter is engaging a specified task. The verbalization can also be retrospective, if the verbal reporting takes place after the task is completed. When the verbalization of mental activities takes place during the performance of a task, it is referred to as the “think-aloud” method and the resulting verbal report as the think-aloud protocol. Typically, the think-aloud procedure asks the participant to speak out loud, while performing a specified task, what she/he is thinking. This request can be repeated if necessary during the performance of the task to encourage the participant to continuously talking out loud whatever thoughts come to

mind. The request will not entail suggestive prompts or ask the participant for explanations. It will simply ask the participant to provide a concurrent report of her/his thoughts.

These authors also distinguished three levels of verbalization in terms of the extent the intermediate or extra processing required to generate the verbal reports. Level 1 or direct verbalization is simply the vocalization of the covert thoughts already in verbal codes. At this level, no intermediate processing and minimum extra cognitive effort is required of the reporter to produce the report. An example of Level 1 verbalization is the reporting of the mental process while working on a multiplication problem. Level 2 verbalization requires translation of the mental representation from a nonverbal experience (such as smelling a certain odor) to verbal descriptions or to describe/communicate the thought content to an audience. At this level, some effort is required to produce the verbal reports to be understood. Level 3 verbalization requires filtering, inference making or interpreting one's thoughts or motives, and is the most complicated process. Some examples of Level 3 verbalization are: reporting of only mental events that match instructions (such as reporting only anxiety inducing activities or reporting every new occurrence of an activity) or explaining why certain strategy is taken when performing a certain task.

Ericsson and Simon reviewed numerous studies involving think-aloud protocol during performance of various problem solving tasks. They reported that when Level 1 and 2 verbalizations were involved, verbal reporting would not change the "course and structure" of the cognitive processes. It only slowed down the task performance. For Level 3 verbalization, on the other hand, verbal reporting was found to disturb the cognitive processes in that it redirected attention or led to new mental processing which would not have taken place otherwise.

Ericsson and Simon (1980) maintained that think-aloud procedure involving level 1 and 2 verbalization provides a way to tap directly into the mental processes of interests to many cognitive researchers. They described this type of verbal reporting of the attended information as primarily “subordinated to, and passively dependent on” the task-directed cognitive processes, since the attended information is generated by the performance of the task:

With the [think-aloud] procedure, the heeded information may be verbalized either through direct articulation or by verbal encoding of information that was originally stored in a nonverbal code. With the instruction to verbalize, a direct trace is obtained of the heeded information ... (p.220)

The think-aloud method thus produces verbal reports which allow direct investigation into the otherwise covert mental processes. Such wealth of information is well recognized and accepted by the cognitive psychologists. The method has since been widely and successfully applied to various problem solving tasks, architectural design, medical diagnosis, etc., to uncover the underlying cognitive processes, to build expert systems, to compare individual differences, to explore the cognitive changes overtime within the same individual, or to investigate the effect of instructions on the performance of a task etc. (Anzai & Simon, 1979; Breuker & Wielinga, 1987; Ericsson & Simon, 1993; Kuipers, Moskowitz & Kassirer, 1988; Someren, Barnard & Sandberg, 1994).

Attributable to Hays and Flower (1983, 1986), the think-aloud method has also become popular, for more than two decades, among many writing researchers for its application in modeling/theory building of the writing processes (Stratman & Hamp-Lyons, 1994). Although some writing researchers criticized the think-aloud procedure for its “reactive” nature, i.e., thinking aloud disturbs the writing process, (Janssen, van Waes & van den Bergh, 1996; Russo, Johnson & Stephens, 1989; Smagorinsky, 1989), these

authors also considered it “not a sensible thing to do ” to abandon the method (Janssen et al., 1996).

The application of the think aloud method in reading research was also defended by various researchers (Afflerbach & Johnston, 1984; Olson, Duffy, & Mack, 1984; Pressley & Afflerbach, 1995; White, 1980). The method has been widely applied to gain access to the “on-line” comprehension processes such as the depth of text understanding (Lundeberg, 1987; Wineburg, 1991), reading strategies (Braten & Stromso, 2003; Crain-Thoreson, Lippman, & McClendon-Magnuson, 1997; Deegan, 1995; Meyers, Lytle, Pallandino, Devenpeck & Green, 1990; Pressley & Afflerbach, 1995; Trabasso & Suh, 1993), and factors affecting reading (Pritchard, 1990). Studies have also provided validity support of the think-aloud protocol findings by reporting convergent results between the think-aloud and regular reading conditions (Olson, Duffy, & Mack, 1984; Trabasso & Suh, 1993). Additionally, Crain-thoreson et al. (1997) also reported that the think-aloud procedure did not influence the reading comprehension of the college students.

In summary, concurrent verbal reporting of mental activities has provided a valuable tool to investigate the cognitive processes. Although some critiques questioned the method’s validity or reactive nature, the method is generally regarded as an effective way of gaining access to various mental activities, especially when the verbalization and the task being performed are not complex or demanding of the reporter.



## Chapter 3: Method

This study explored the following research questions.

### RESEARCH QUESTIONS

1. Do gender schemas play a role in respondents' interpretation of the BSRI items?

Schema theory has demonstrated how schemas play an essential role in reading comprehension. Bem's gender schema theory claimed that the gender schemas affect people's perceptions and judgment in everyday life. How do gender schemas affect respondents' reading and interpretation of the sex role inventory items?

- 1a. Are there differences between the two gender groups in the way each item is interpreted? Are there similarities in the way items are interpreted within each gender group?

Historically and across all cultures, distinctions have been made along the biological gender line. The two gender groups are differentiated not only in terms of physical appearances (e.g., hair style, clothing, use of makeup), but also in terms of social use of languages, activities, roles or tasks assigned and practiced. Since gender driven practices and expectations are so deeply rooted within a society and culture, it is not unreasonable to expect cognitive structures (schemas) to be developed along the same gender line and to investigate their effect on item interpretation.

- 1b. Are there differences in the way the items are interpreted among the four gender types as measured by the BSRI? Are there similarities within each group?

There are numerous studies (Bem, 1981, 1982; Crane & Markus, 1982; Markus, Crane, Bernstein & Siladi, 1982) that have demonstrated the cognitive consequences of sex typing: Feminine and masculine individuals, as identified by the BSRI, are more sensitive to gender distinctions. They have a generalized tendency to encode and organize information through the gender lens or based on the societal or cultural view of gender. The androgynous and the undifferentiated individuals, on the other hand, have been found to process gender relevant information differently. These findings justify further investigation of the meaning construction of the scale items by these four groups.

2. How do life experiences play a role in participants' item interpretation?

Socio-cultural reading theories have argued that reading is not a private activity. This view proposes that a reader inevitably brings to the task of reading her/his life experiences. As reviewed earlier, the results of factor analysis studies of the BSRI varied from study to study and may be attributable to the samples included in the study. One apparent feature that varied from sample to sample is the age of the subjects, e.g., undergraduate students, graduate students, elderly etc.. These samples may reflect different life experiences of the subjects in each age group. It is thus reasonable to ask how life experiences of the respondents influence the interpretation of the scale items.

3. Do the BSRI item characteristics (i.e., masculinity and femininity items) play a role in item interpretation? Do different subscale items generate different patterns of item interpretations?

Bem (1993) claimed that the BSRI items were constructed based on “native informants.” The masculine items were judged by both the male and female informants as characteristics that are more desirable for a man in the American culture, and the reverse is true for the feminine items. Will the socially constructed, gender-related attributes provided by the informants be reflected in readers’ interpretations of each group of items?

4. What are respondents’ views of the meaning of masculinity and femininity?
  - 4a. Do different gender type respondents construct different meanings?

According to Bem, the BSRI items were selected to reflect the cultural lenses on masculinity and femininity. The gender typing based on the scale thus locates a respondent on a culturally defined dimension(s). While this may make sense to the sex-typed individuals who shared the social lenses on gender roles, the approach measures the non-sex-typed individuals based on something they do not share or even understand. It is likely for a person to agree with all the Masculine subscale items as good self-descriptors without “implicating the concepts of masculinity” (Bem, 1981) and to consider her/himself as masculine. This research question will explore such a claim.

4b. Are there gender differences?

4c. Are there differences between people with different life experiences?

## **PARTICIPANTS**

To address the research questions, forty participants were selected to include both sexes and different life experiences, as indicated in Table 3.1. The undergraduate students and the working adult participants were more or less cohorts from two generations. These

two groups differed both in age and in the major focus of their lives and thus presumed to have different life experiences. (Table 4.1 provides summary information on some of the demographic differences between the two groups.) The inclusion of these two groups provided a gross indicator of contrasts between two types of participants and was not intended to imply homogeneity within each group.

The undergraduate students were provided by the Educational Psychology human subject pool, and the working adults were recruited from the researcher’s personal contacts (e.g., work, sports). The sample was a "convenience sample" in the sense that the student group was readily available through the department subject pool and the adult participants were conveniently accessible to the researcher.

Table 3.1: Participants by Sex and Life Experiences

	Male	Female
Undergraduate students	10	10
Non-student/working adults	10	10

## THE INSTRUMENTS

### Consent form (Appendix A)

This form provides participants with information about the current study, such as the purpose, the length of time, the confidentiality issue, and contacts for questions. It also includes signature lines for both the participant and the researcher.

### Bem Sex Role Inventory (BSRI)

The BSRI was purchased from Mind Garden Incorporated, which is the copyright owner of the BSRI. To accommodate the current design needs, two versions of the modified BSRI were constructed. Each version consisted of 45 items: 20 Masculinity and 20 Femininity subscale items and 5 Social Desirability subscale items. Twenty five of these items require the participants to verbalize their thought processes when they rate

themselves, i.e., to "think aloud." Limiting the "think aloud" to 25 items was intended to prevent participants from experiencing fatigue or burnout while performing the task. To accommodate the current study needs, the instructions for the self-rating and the think-aloud items were also modified from the original BSRI instructions. The two versions differed in the order that these "think-aloud" items are presented. Also included are the instructions and practice items for the "think-aloud" procedure and the "explain by example" procedure, which will be described later. Each version was randomly pre-assigned to each of the participants in Table 3.1.

- Version 1 (Appendix B) - The first 25 items in this version are think-aloud items. They consist of the Masculinity and Femininity items (10 each) in the BSRI short form, and five Social Desirability items randomly selected from the short form. The remaining 20 items are the 10 Masculinity and 10 Femininity items from the long form.
- Version 2 (Appendix C) - The items are identical to those in version 1, except that the order of the two sets of items are reversed, i.e., the 25 think-aloud items are listed after the other set of Masculinity and Femininity items.

#### Biographical data sheet (Appendix D)

This form was provided to each participant to collect demographic information such as age, marital status, education, religious belief etc.

#### **DATA COLLECTION**

Data gathering consisted of two consecutive phases.

#### **Phase I - Completing the self-rating and the "think-aloud" on the modified BSRI**

Each participant was contacted prior to the study via e-mail to set up an appointment. An identification number was assigned to the participant and used on all

forms and recordings. Each participant met individually with the researcher at the scheduled time and place. Before the study began, the consent form was presented to the participant. Each participant was instructed to read the consent form, to ask questions, and to provide their signature as a form of consent. A copy of the signed consent form was provided to the participant.

The study began by giving the participant the assigned version of the BSRI. For the "version 1 BSRI" participants, the study progressed as follows:

1. Participant was instructed to read the instruction and perform self-ratings on 20 items.
2. Participant was instructed to read the "think- aloud" instructions and encouraged to ask questions about the procedure.
3. Participant practiced "think-aloud" on two commonly used adjectives "curious" and "talkative."
4. Participant performed self rating and "think aloud" on the remaining 25 items. Before the task began, the participant was reminded to verbalize everything that came to mind while reading and answering each item. The participant was reminded again when silent pauses were observed.

For the "version 2 BSRI" participants, step 1 was not performed until the "think aloud" was completed, i.e., step 1 was moved to last.

The think-aloud procedure was audio-recorded and later transcribed.

## **Phase II - Interview**

This phase followed immediately after phase I. The nature and the process were the same for all participants. Participants were asked to go through each think-aloud item in phase I and to provide examples or situations to explain what the item meant to them. Instructions and practice items for this task were also included in the materials provided

to the participant. Each participant was instructed to read the instructions and practice performing the task (on the same two items as in the "think aloud" practice).

After the "provide example" task was completed, each participant was asked the question "what does being masculine mean to you" and to provide examples or situations, and the question "what does being feminine mean to you" and to provide examples or situations.

The tasks performed in this phase were conducted interactively, in the sense that the researcher would ask questions to clarify what the participant was saying. This session was also audio-recorded and transcribed.

The biographical data sheet was provided to, and completed by, the participant at the end of the study.

The length of time to complete the study ranged from about 40 minutes to two hours. The majority of the participants took about 75 minutes to finish.

### **Data transcription**

The audio tapes were transcribed by the researcher as well as by paid transcribers. The transcripts were mainly produced by two transcribers over a six month period. The first transcript produced by each paid transcriber was checked by the researcher to ensure the quality of work. Thereafter, transcripts produced by the paid transcribers were sample checked.

## Chapter 4: Data Analysis

Adopting a socio-constructive view on meaning construction and text comprehension, the study explored how gender schemas and life experiences may influence respondents' interpretations of the text (items) in the BSRI. This instrument contains two subscales designed to measure the two constructs "masculinity" and "femininity." The subscale scores are further applied to categorize a respondent in one of the four gender types proposed by Bem: Masculine, Feminine, Androgynous, and Undifferentiated. Of additional interest is how the "psycho-social" characteristics of the text, i.e., the "masculine" versus "feminine" items, may play a role in meaning constructions. Lastly, the study investigates the participants' views on masculinity and femininity.

Results will be presented in two major categories. Quantitative data including demographic data and self-rating scores will be analyzed and presented first. The data were also compiled by types of participants, such as male versus female participants, or undergraduate student versus working adult participants, to provide general group comparisons.

Descriptive analyses were also performed on participants' BSRI scores. Means and standard deviations of the self-ratings on each of the 20 "think-aloud" items were calculated for the entire sample as well as for each group of participants. Participants' Masculine and Feminine subscale scores were similarly compiled to reflect the group similarities and differences on the two constructs as measured by BSRI.

The qualitative data consisted of the interpretations and examples provided by the participants during the "think-aloud" tasks as well as from the subsequent interviews. Participants' meaning constructions for each item were analyzed by identifying properties



and sub-properties for each of the 20 "think-aloud" items. Presentation of the qualitative results will begin with a summary account of the common or shared meanings constructed for each item as well as the unique and idiosyncratic interpretations.

To explore the role of gender schemas, the meanings constructed for each item were summarized by sex of the participants. Comparisons between the two sexes are summarized to reflect group similarities and differences in their meaning constructions. The same analyses were also performed on the four gender types, as the masculine and feminine gender types were proposed by Bem to be more gender schematic, i.e., having "a generalized readiness to encode and organize information in terms of the culture's definitions of masculinity and femininity" (Bem, 1982, p.1193) or "highly attuned" to the cultural definitions.

To explore the role life experiences may play in the meaning constructions of the item text, statements from undergraduate students are compared to those of the adults. Since the two groups differed significantly in their ages, it is reasonable to assume their life experiences differed correspondingly.

To explore the "psycho-social" characteristics of the text, the meaning constructions of the masculine items were summarized and compared to the meaning constructions of the feminine items, since the subscale items were chosen by Bem based on their differential social desirability to each sex.

To explore the participants' views on being masculine and being feminine, their interpretations were compiled and summarized for the entire sample as well as for each participant type.

## QUANTITATIVE ANALYSIS

### Demographic data

Demographic data provided by the participants on the biographical data sheet are presented in Table 4.1.

**Age** The mean age of the student group, 21.2, was significantly lower than that of the working adult participants, 50.1 ( $p < .01$ ). The mean ages did not differ significantly among other types of participants. The ages of the undergraduate student participants were more homogenous as expected (standard deviation = 1.45 years). The ages of the working adult group varied widely, with a standard deviation of almost 10 years, and ranged from 27 to 71, although over half of the working adult participants were in their 50s at the time of the study.

**Education** The average education level was comparable among different types of participants, they all fell between 15 - 16 years of schooling. There were 14 working adults with college degrees, six of whom had an advanced degree. Fourteen student participants were graduating seniors at the time of the study. Study majors included business (finance, marketing), communications, education, law, literature, sciences (e.g., engineering, computer science, geography, biology), social and behavioral sciences (psychology, sociology), and social work. Business (6), communication (2), and engineering (3) majors were found only in the student group and sociology (2) and social work (2) majors were only found in the working adult group.

**Marital status** Half of the working adult participants were married at the time of the study, while no student participants were.

Table 4.1: Demographic Data by Types of Participants

	Total	Female	Male	A*	F*	M*	U*	Student	Adult
<b>Sample size</b>	40	20	20	9	9	9	13	20	20
<b>male</b>				3	2	7	8	10	10
<b>female</b>				6	7	2	5	10	10
<b>student participants</b>		10	10	5	4	6	5		
<b>adult participants</b>		10	10	4	5	3	8		
<b>Age</b>									
Mean	35.6	35.9	35.3	34.6	40.6	29.0	37.5	21.2	50.1
Standard deviation	16.14	16.48	16.22	15.59	19.16	13.76	16.07	1.35	9.67
Range	18 - 71	19-58	18-71	20-54	21-71	18-56	20-59	18-24	27-71
<b>Years of education</b>									
Mean	15.7	15.5	15.9	15.5	15.4	15.1	15.9	15.2	15.9
Standard deviation	1.56	1.73	1.37	0.58	1.98	1.48	1.60	0.76	2.01
Graduated from college	14	6	8	3	2	2	7	0	14
(Graduate degree)	(6)	(3)	(3)	(0)	(2)	(1)	(3)	(0)	(6)
<b>Ethnicity (%)</b>									
Asian	15.0%	15.0%	15.0%	0.0%	22.2%	33.3%	7.7%	25.0%	5.0%
Black	5.0%	5.0%	5.0%	22.2%	0.0%	0.0%	0.0%	10.0%	0.0%
Caucasian	72.5%	65.0%	80.0%	77.8%	77.8%	66.7%	69.2%	60.0%	85.0%
Hispanic	7.5%	15.0%	0.0%	0.0%	0.0%	0.0%	23.1%	5.0%	10.0%
<b>Married (%)</b>	25%	20%	30%	44%	22%	11%	23%	0%	50%

\* Gender types: A - Androgynous; F - Feminine; M - Masculine; U - Undifferentiated.

**Ethnicity** The distribution of participants' ethnicity varied among participant types. As it was not part of the design consideration, the statistics are included for informational purpose only.

**Religious beliefs** Also for informational purposes, religious faith was collected. Majority (75%) of the participants held a Christian faith; two reported having a "conglomerate" religious belief, one participant claimed to believe in Judaism, one in Islam.

**Native English speaker** All but one of the undergraduate students are native English speakers. The one exception was a senior student who came to the country while in high school. Since English is a common language in India and most educated Indians do speak it since grade school (in addition to the Indian languages), this participant was included in the study.

## **BSRI scores**

**Total scores** Participants' self ratings on the 20 Masculine and 20 Feminine items were combined to obtain total scores. As reflected in Table 4.2, the average total scores were quite comparable between the male-female, and the student-adult groups, as the group mean differences did not reach statistical significance. The student group did have the largest score variation, indicated by its standard deviation.

**Gender typing** The median split method, originally proposed by Spence et al. (1975) and concurred by Bem (1977), was adopted to categorize participants into the four gender types. The medians were calculated based on the scores collected from 80 respondents, including the 40 mentioned above. (The additional 40 respondents used to calculate the median were recruited the same way as described in the Participants section.) The median for the M subscale is 4.975 and the median for the F subscale is 4.475. (The medians Bem reported for her 1977 sample were 4.89 and 4.76 respectively,

and for her 1981 sample, 4.95, 4.90.) Participants whose M and F scores are above the two respective group medians are categorized as Androgynous. Those with both subscale scores below the two respective medians are categorized as Undifferentiated. Participants whose M score is above the group M score median and whose F score is below the group F score median are categorized as Masculine. Participants are categorized as Feminine if their F score is higher than the group median and their M score is lower than the group median. The frequency by each gender type is provided in Table 4.1. It is interesting to note that there were more females (13) in the Androgynous and Feminine categories whereas males (15) were categorized more in the Masculine and Undifferentiated gender types. The working adult participants stood out in their high appearance in the Undifferentiated group ( $n = 8$ ).

**Masculinity (M) subscale scores** The average total score on the M subscale is 98.03, which yields a mean M score of 4.9 for the current study sample. The mean M score for the male group is 5.06 ( $SD = .57$ ), for the female group is 4.75 ( $SD = .64$ ). Bem (1974) reported 4.97 ( $SD = .67$ ) and 4.57 ( $SD = .69$ ) respectively for her Stanford sample, and 4.96 ( $SD = .71$ ) and 4.55 ( $SD = .75$ ) respectively for her Foothill sample. The male group scored higher than the female group on the M scale with borderline significance ( $p < .06$ ). One way analysis of variance showed significant differences among the four gender types ( $\alpha < .01$  for  $F_{3,36}$ ). There was no significant difference between the student and adult groups. The mean rating and the corresponding standard deviation for each item in the M subscale are presented in Table 4.3. It is interesting to note that there are three items where the mean ratings are below 4 (i.e., less frequent than "occasionally true").

Table 4.2: BSRI Scores by Types of Participants.

	<b>Total</b>	<b>Female</b>	<b>Male</b>	<b>A*</b>	<b>F*</b>	<b>M*</b>	<b>U*</b>	<b>Student</b>	<b>Adult</b>
<b>Sample size</b>	40	20	20	9	9	9	13	20	20
<b>Total scores (M + F)</b>									
Mean total score	192.15	194.40	189.90	210.89	195.67	189.67	178.46	191.95	192.35
<b>SD</b>	16.36	16.96	15.85	11.85	13.63	10.52	9.93	18.75	14.07
<b>M subscale</b>									
<b>Mean total score</b>	<b>98.03</b>	<b>94.95</b>	<b>101.10</b>	<b>106.67</b>	<b>89.67</b>	<b>111.11</b>	<b>88.77</b>	<b>100.6</b>	<b>95.45</b>
SD	12.38	12.84	11.38	6.02	10.52	5.44	7.10	13.07	11.38
<b>Mean M score</b>	<b>4.90</b>	<b>4.75</b>	<b>5.06</b>	<b>5.33</b>	<b>4.48</b>	<b>5.56</b>	<b>4.44</b>	<b>5.03</b>	<b>4.77</b>
SD	0.62	0.64	0.57	0.30	0.53	0.27	0.35	0.65	0.57
<b>Median (n = 80)</b>	<b>4.975</b>								
<b>F subscale</b>									
<b>Mean total score</b>	<b>94.13</b>	<b>99.45</b>	<b>88.80</b>	<b>104.22</b>	<b>106.00</b>	<b>78.56</b>	<b>89.69</b>	<b>91.35</b>	<b>96.90</b>
SD	13.49	11.00	13.90	8.27	6.44	8.11	9.46	16.16	9.82
<b>Mean F score</b>	<b>4.71</b>	<b>4.97</b>	<b>4.44</b>	<b>5.21</b>	<b>5.30</b>	<b>3.93</b>	<b>4.48</b>	<b>4.57</b>	<b>4.85</b>
SD	0.67	0.55	0.70	0.41	0.32	0.41	0.47	0.81	0.49
<b>Median (n = 80)</b>	<b>4.775</b>								

**Femininity (F) subscale** The average total score on the F subscale is 94.13, which yields a mean F score of 4.71 for the current study sample. The mean F score for the male group is 4.44 (SD = .70), for the female group is 4.97 (SD = .55). Bem (1974) reported 4.44 (SD = .55) and 5.01 (SD = .52) respectively for her Stanford sample, and 4.62 (SD = .64) and 5.08 (SD = .58) respectively for her Foothill sample. Similar to what has been reported by other researchers, the female group did score significantly higher than the male group ( $p < .01$ ) on the F subscale. One way analysis of variance also showed significant differences among the four gender types. There was no significant difference between the student and adult groups. The mean ratings and corresponding standard deviation for each item in the F subscale are presented in Table 4.4.

**Correlation between the F and M subscale scores** The correlation between the two subscale scores for the 80 respondents was -.191. The negative correlation between the two subscale scores is not statistically significant.

Table 4.3: BSRI Masculinity Subscale Scores by Types of Participants.

Masculine items	Total	Female	Male	A	F	M	U	Student	Adult
<b>Defends own beliefs</b>	<b>5.45</b> (m)	<b>5.35</b>	<b>5.55</b>	<b>6.00</b>	<b>4.78</b>	<b>6.33</b>	<b>4.92</b>	<b>5.75</b>	<b>5.15</b>
	1.108 (SD)	1.182	1.050	0.707	1.093	0.500	1.115	0.967	1.182
<b>Independent</b>	<b>5.65</b>	<b>5.80</b>	<b>5.50</b>	<b>6.11</b>	<b>5.33</b>	<b>6.44</b>	<b>5.00</b>	<b>5.45</b>	<b>5.85</b>
	1.051	1.005	1.100	0.601	1.000	0.726	1.080	1.276	0.745
<b>Assertive</b>	<b>4.83</b>	<b>5.05</b>	<b>4.60</b>	<b>5.89</b>	<b>4.44</b>	<b>5.56</b>	<b>3.85</b>	<b>5.05</b>	<b>4.60</b>
	1.412	1.572	1.231	0.782	1.944	0.882	0.801	1.234	1.569
<b>Strong personality</b>	<b>5.18</b>	<b>5.35</b>	<b>5.00</b>	<b>5.78</b>	<b>5.56</b>	<b>5.56</b>	<b>4.23</b>	<b>5.55</b>	<b>4.80</b>
	1.500	1.599	1.414	1.641	1.590	1.130	1.235	1.395	1.542
<b>Forceful</b>	<b>3.35</b>	<b>3.30</b>	<b>3.40</b>	<b>3.78</b>	<b>2.44</b>	<b>4.11</b>	<b>3.15</b>	<b>3.10</b>	<b>3.60</b>
	1.312	1.455	1.188	1.563	0.882	1.269	1.068	1.373	1.231
<b>Has leadership abilities</b>	<b>5.30</b>	<b>5.20</b>	<b>5.40</b>	<b>6.33</b>	<b>4.44</b>	<b>6.11</b>	<b>4.62</b>	<b>5.65</b>	<b>4.95</b>
	1.363	1.609	1.095	0.707	1.810	0.333	1.044	1.226	1.432
<b>Willing to take risks</b>	<b>4.35</b>	<b>4.30</b>	<b>4.40</b>	<b>4.67</b>	<b>4.67</b>	<b>4.78</b>	<b>3.62</b>	<b>4.40</b>	<b>4.30</b>
	1.528	1.780	1.273	1.225	1.936	1.481	1.325	1.789	1.261
<b>Dominant</b>	<b>3.95</b>	<b>4.05</b>	<b>3.85</b>	<b>4.22</b>	<b>3.56</b>	<b>4.78</b>	<b>3.46</b>	<b>4.15</b>	<b>3.75</b>
	1.467	1.605	1.348	0.972	1.944	1.302	1.330	1.387	1.552
<b>Willing to take a stand</b>	<b>5.55</b>	<b>5.60</b>	<b>5.50</b>	<b>6.22</b>	<b>5.44</b>	<b>6.00</b>	<b>4.85</b>	<b>5.70</b>	<b>5.40</b>
	1.154	1.273	1.051	0.972	1.236	0.866	1.068	1.081	1.231
<b>Aggressive</b>	<b>3.45</b>	<b>3.20</b>	<b>3.70</b>	<b>4.11</b>	<b>2.00</b>	<b>4.33</b>	<b>3.38</b>	<b>3.80</b>	<b>3.10</b>
	1.568	1.704	1.418	1.054	1.323	1.414	1.502	1.576	1.518



Table 4.4: BSRI Femininity Subscale Scores by Types of Participants.

<b>Feminine items</b>	<b>Total</b>	<b>Female</b>	<b>Male</b>	<b>A</b>	<b>F</b>	<b>M</b>	<b>U</b>	<b>Student</b>	<b>Adult</b>
<b>Affectionate</b>	<b>4.95</b>	<b>5.25</b>	<b>4.65</b>	<b>5.44</b>	<b>5.67</b>	<b>4.22</b>	<b>4.62</b>	<b>4.85</b>	<b>5.05</b>
	1.218	1.251	1.137	0.882	1.118	1.481	0.961	1.387	1.050
<b>Sympathetic</b>	<b>5.08</b>	<b>5.30</b>	<b>4.85</b>	<b>5.33</b>	<b>5.78</b>	<b>4.00</b>	<b>5.15</b>	<b>4.95</b>	<b>5.20</b>
	1.163	0.801	1.424	0.866	0.833	1.323	0.987	1.146	1.196
<b>Sensitive to the needs of others</b>	<b>5.45</b>	<b>5.85</b>	<b>5.05</b>	<b>6.11</b>	<b>6.56</b>	<b>4.22</b>	<b>5.08</b>	<b>5.35</b>	<b>5.55</b>
	1.197	0.933	1.317	0.782	0.726	1.202	0.641	1.424	0.945
<b>Understanding</b>	<b>5.40</b>	<b>5.70</b>	<b>5.10</b>	<b>6.00</b>	<b>5.89</b>	<b>5.00</b>	<b>4.92</b>	<b>5.20</b>	<b>5.60</b>
	1.008	0.865	1.071	1.000	0.782	1.118	0.760	1.005	0.995
<b>Compassionate</b>	<b>5.48</b>	<b>5.90</b>	<b>5.05</b>	<b>6.11</b>	<b>6.33</b>	<b>4.67</b>	<b>5.00</b>	<b>5.35</b>	<b>5.60</b>
	1.240	1.071	1.276	0.601	0.707	1.500	1.155	1.496	0.940
<b>Eager to soothe hurt feelings</b>	<b>5.28</b>	<b>5.70</b>	<b>4.85</b>	<b>6.22</b>	<b>6.44</b>	<b>3.67</b>	<b>4.92</b>	<b>5.25</b>	<b>5.30</b>
	1.432	1.081	1.631	0.972	0.527	1.118	1.115	1.832	0.923
<b>Warm</b>	<b>4.88</b>	<b>4.80</b>	<b>4.95</b>	<b>5.56</b>	<b>5.22</b>	<b>4.33</b>	<b>4.54</b>	<b>4.70</b>	<b>5.05</b>
	1.265	1.281	1.276	0.882	1.563	0.866	1.330	1.490	0.999
<b>Tender</b>	<b>4.48</b>	<b>4.95</b>	<b>4.00</b>	<b>5.00</b>	<b>5.67</b>	<b>3.33</b>	<b>4.08</b>	<b>3.90</b>	<b>5.05</b>
	1.432	1.276	1.451	0.866	1.118	1.500	1.188	1.483	1.146
<b>Loves children</b>	<b>5.98</b>	<b>5.85</b>	<b>6.10</b>	<b>6.44</b>	<b>6.22</b>	<b>6.00</b>	<b>5.46</b>	<b>5.70</b>	<b>6.25</b>
	1.271	1.531	0.968	0.882	1.394	1.323	1.330	1.380	1.118
<b>Gentle</b>	<b>4.75</b>	<b>4.85</b>	<b>4.65</b>	<b>4.56</b>	<b>5.89</b>	<b>3.89</b>	<b>4.69</b>	<b>4.45</b>	<b>5.05</b>
	1.256	1.348	1.182	1.236	0.782	1.269	1.032	1.538	0.826

## QUALITATIVE ANALYSES

### The process of analysis

Participants' meaning constructions of each item were analyzed by taking the following two approaches:

(1) Meanings constructed for each item were summarized for each participant. This was accomplished by reading the "think-aloud" and the "follow-up interview" transcripts. Quotations that captured the essence of the meanings constructed, based on the researcher's view, were used whenever available. Two such summaries are included here. Additional summaries for other items can be obtained from the author if interested.

(2) Both "think-aloud" and the "follow-up interview" transcripts were coded using procedures recommended by the grounded theory method (Strauss & Corbin, 1996). From the transcripts, properties were generated based on the concepts, attributes, and/or dimensions that were either directly provided by the participants, and/or identified by the researcher in participants' interpretations. These properties were then organized and regrouped based on their shared dimensions. For instance, participant ID 15 interpreted the meaning of the item "Independent" as:

*I guess being in college, my fifth year here at UT ... I've started ... paying my own bills, doing stuff on my own, making decisions for myself without having to go back to my parents. ... very independent is somebody who can do everything themselves, who really don't depend on Mom or Dad or grandparents for either money or advice ... I have two credit cards ... and if I buy like a laptop or if I want to go on a trip, you know, it's okay to charge it, but that I know that I'm going to have to pay for it on the next paycheck ...*

From this interpretation, two properties were provided directly by the participant: "financially providing for oneself" and "ability to make own decisions (buying a laptop or going on a trip)."

In the following example, participant ID 27 interpreted "Independent" as:

*I think I am independent because I take care of my own self, if I have hard assignments ... I can take care of it myself. I will always get through it and I don't ask for help very often ... I feed myself ... I do my own laundry, I go get my oil changed ... I know when I need to go see the dentist. ... Emotionally, I think I am not as independent because a lot of times if I am having a hard time, if I am stressed out, I need to talk to my Mom....*

Two additional properties were identified from this interpretation, one was provided directly by the participant, which is "emotional independence - able to handle hard times by oneself;" and the second property "ability to take care of one's daily needs and responsibilities" was generated based on grouping the two sub-properties identified in the interpretation, "providing daily basics (i.e., food and laundry) to oneself without relying on others" and "ability to handle one's responsibilities (finishing school assignment by oneself, keeping up with oil change and dental appointment)."

Properties and sub-properties generated for each item were evaluated and organized to derive the final set of properties used for frequency tabulations. Appendix F contains two samples of such properties and the contributing sub-properties identified from participants' meaning constructions. (Readers may request such listings for other items from the researcher.)

Both the summary interpretations and the generation of properties/sub-properties were conducted twice with one to two weeks time lapse in between. The dissertation adviser was consulted when inconsistencies or questions were encountered. The summaries were also sample checked by the dissertation advisor.

### **Meaning construction**

A consistent observation across items is that participants constructed various meanings for each item. These meanings are reflected by a variety of attributes or properties that were identified (via the approaches described in the above paragraphs) in participants' meaning constructions. (Readers may refer to the summary interpretations

with direct quotes to evaluate the properties generated by the researcher.) Although there were commonly shared meanings, there were rare and unique one as well. There were also a small number of misinterpretations where the meanings constructed were not even remotely related to any definitions found in the dictionary.

The various meanings constructed by the participants for each item are summarized below. The shared constructions will be presented first, followed by unique and idiosyncratic constructions. Erroneous constructions will also be presented if they exist.

### ***Defends own beliefs***

The meanings of the phrase appeared to be commonly situated in the perception of an opposing view, to what is held by oneself. The strength of the opposition, however, did vary among participants' constructions, from being merely different viewpoints to perceived attacks. The types of beliefs reported by the participants also varied, including strictly ideological beliefs (such as religion related, political, social or moral issues), beliefs about one's rights, beliefs about a solution or approach to a work problem, beliefs about a parking ticket fee error, and a belief in the correctness of answers to trivia questions. The act of defending was interpreted to mean the willingness to express a position on certain issues/topics or willingness to argue for them, it was also interpreted as the ability to articulate the rationale behind a position. There was verbal defense, as well as defense through actions. "Defends own beliefs" was constructed to mean an idea exchange event, but it was also constructed with a right-wrong/self-other dichotomy. The item carried a sense of self-protection (of one's interests); it also carried a sense of being potentially offensive. It insinuated the presence of stubbornness in one's character, or courage; it implied a desire to be heard or understood; it reflected the wants to be right or

to convert others. (See Table 4.5 for the frequency counts of the constructed meanings and the types of belief.)

Table 4.5: Meanings of "Defends Own Beliefs" and Types of Beliefs.

	Frequency
Speaking against others	37
Speaking up at a risk	19
Willing to express one's viewpoint	18
To provide the rationale behind one's view/position	15
Defending one's belief through actions	11
Being stubborn/not easily persuaded/swayed	9
To convince others that one's belief is right	8
To protect one's rights/interests	8
Thinking highly of one's views and being vocal about them	3
Total	128
<b>Types of beliefs</b>	
Religious	25
Political	21
Moral	11
Abortion/birth control	10
Work related	9
School/education related	9
Protecting one's interests	5
Premarital sex	4
Racial	4
Drinking/gambling	3
Trivia questions	3

### *Affectionate*

"Affectionate" carried a strong "physical" sense, as this attribute was incorporated (although in different ways) in almost all participants' constructions. In this sense, "affectionate" was constructed to mean the display of affection via physical acts, such as kissing, hugging, touching, or stroking. Also in the "physical" sense, it is a manifestation of friendliness through physical contact, such as touching or patting. Another common theme in participants' meaning constructions is the display of affection. In addition to displaying affection "physically," "affectionate" was constructed to mean displaying

affection verbally, such as saying "I love you" or giving compliments; or displaying of affection through actions, such as helping solve problems, taking care of needs. Another dimension of the display is that it is demonstrated publicly, in front of other people. As a nice way of treating people, "affectionate" was being caring, loving, warm, compassionate and supportive to people in general; it was also viewed as an exclusive practice toward one's loved ones, such as family members, own children, romantic partner, or pets. In a strictly "emotional" sense, "affectionate" referred to showing one's emotions and feelings, or being emotionally open, close to someone. The participants' interpretations of "affectionate" reflected a sense of family ties, a sense of caring friendship, a sense of romantic closeness, a sense of love for animals, as well as a sense of friendliness to people in general.

Table 4.6: Frequency Counts by Meanings of "Affectionate."

	Frequency
Show affection through physical contact/touchy-feely	29
Being caring/loving/warm/compassionate/nice to others	15
Able/willing to show one's emotions/feelings	12
Display affection verbally	11
Being friendly through physical touch or words	10
Display of affection towards one's romantic partner	10
Public display of affection	9
Show affection physically/verbally to pets/animals	7
To take care of problems/needs for someone	5
Being close/open/personal to someone	4
Being warm/nurturing/nourishing/loving to one's children	1
Show one's sentiment/being lovey-dovey	1
Acknowledge/appreciate what others did for you	1
<b>Total</b>	<b>115</b>

**Unique construction** One adult participant interpreted "affectionate" as being "sentimental," having the need "to feel connected to people." Another considered "affectionate" as an appreciative response to someone who did something nice for you.

### ***Independent***

Participants' meaning constructions of the item "Independent" consistently incorporated the element of a person's ability or strength to be not needing help from others. This sense of capability appeared in four major contexts: financial, self-care, emotional, and mental. Financially, the item was interpreted to mean making one's own living without having to receive monetary assistance from parents, family members and/or friends. In the context of self care, the item was constructed to mean taking care of one's daily needs and responsibilities (e.g., cooking, laundry, paying bills, balancing one's checkbooks) without the help of others. Emotionally, "independent" was interpreted to mean having the psychological strength to detach oneself from people, to be capable of spending time alone, to be one's own person, and not to be needy of the psychological support of others. And mentally, the item was interpreted to mean having the ability, capability or knowledge to perform tasks, to form one's own opinions and beliefs, or to make one's own decisions without the input from or reliance on others. There was also the construction that incorporated all four elements, such as capable of starting a new life in a new city or country. The item was also evaluated as a desirable personal characteristic.

Less commonly, the construction situated the meanings of "independent" in power structures, such as not having to answer to parents or husband/boyfriend, being one's own leader (as opposed to being a follower), and resisting peer pressure. In addition, refusing assistance or input from others was also constructed as meaning "independent."

**Rare construction** Two participants considered having the ability to lead others as being independent.

**Unique construction** One adult participant considered makings decisions with spouse without outsiders' input as being independent.

Table 4.7: Frequency Counts by Meanings of "Independent."

	Frequency
Financially providing for oneself	23
Able to take care of one's daily needs and responsibilities	21
Ability to perform tasks/get things done by oneself	18
Able to form own opinions/conclusions and make own decisions	16
Able/prefer to spend time alone	14
Being one's own person/not worrying about what people think	12
Don't have to answer to people	9
Being one's own leader/resist peer pressure	5
Refuse help/input from others	4
Ability to start a new life in a new city/country	3
Ability to lead others	2
Making decisions with spouse without directions from others	1
Total	128

### *Sympathetic*

The participants' meaning constructions of "sympathetic" were very much focused on someone else's (including animals') misfortune or unfavorable condition. Situated in that context, three distinct categories of meanings can be identified: an emotional experience, a cognitive exercise, and an action.

Being sympathetic carried a strong sense of a personal emotional experience over someone else's misfortune, which was usually, but not necessarily, of the type that is beyond the control of the person suffering, such as death of someone, illness, accidents, physical or mental disability, victims of natural disasters, etc.. The sympathetic person may be feeling what the unfortunate person is feeling (i.e., pain, usually), or may be feeling bad for them. In addition to "sympathetic" as an emotional experience only, it was also interpreted as a combination of feelings and followed by actions taken to relieve aspects of the suffering, to show psychological support, to help people cope with the



situation, to meet the needs of people, to improve the condition that caused the pain or suffering, or to eliminate the problem for people. Very commonly, the participants were referring to actions as simple as offering condolences, to lend an ear, to console, to give people a second chance, to befriend those shunned by others, or to help people solve a problem, etc. The actions may also be making donations or becoming a volunteer. Lastly, being sympathetic can also mean seeing things through the eyes of others, to understand their problems, to learn about their experiences, or to analyze their situation. This cognitive exercise may also be followed by actions, such as accepting the person's viewpoints/beliefs, forgiving the person's mistakes, cutting the person some slack, solving the problem for the person, or helping out in some way. In this interpretation, one can sense an interest in the cause(s) of the undesirable situation, or even a focus on the responsibility issue. When this property was incorporated in the meaning construction, the interpretation of being sympathetic often became a conditional one - when the person is not perceived to be responsible for the predicament.

**Rare constructions** There were also rare meaning constructions which did not presuppose the existence of an undesirable condition. Instead, this interpretation implied that being sympathetic is to behave in ways that prevent potentially unhappy outcomes, such as giving in to other's wishes, to accept and acknowledge other's views/beliefs as valid, or just being "a nice guy." Being sympathetic in this sense was to cater to other's needs and to make them happier than they would be otherwise.

**Unique construction** The more idiosyncratic interpretation restricted the meaning of "sympathy" to be applicable only to situations where solutions exist. For instance, sympathy is not applicable to the killing of animals for food.

Table 4.8: Frequency Counts by Meanings of "Sympathetic."

	Frequency
To do things for people/to help solve the problem	26
Feeling sorry/bad for people	22
To care about how others feel	15
To comfort people who are feeling bad	14
To feel how people in the situation feel	10
To try to understand other's situation/problem	8
To be concerned with people's needs	8
To offer condolences/to express own feelings of the situation to people	6
To view the predicament as beyond the person's control/ability	4
To forgive/to give people a second chance	3
To be a nice person/to reach out to people	2
To accept others' viewpoints/beliefs	2
To befriend those shunned by others	1
Total	121

*Assertive*

There were a few distinct meanings. "Assertive" was most commonly interpreted as "to have one's way." Also common was the meaning construction along the dimension of self expression, but varied with underlying forcefulness. In this sense, the meanings varied from simply voicing one's views/opinions, to pushing for one's ideas, to presenting unpopular viewpoints, to conveying disapproval of others' viewpoints/actions, to persuading people, and to commanding others. Additionally, "assertive" was interpreted as goal oriented actions, such as aggressively pursuing what one wants, insisting on one's decision, taking steps to make things "right" or to protect one's own interests, and taking responsibilities and initiatives getting things done. Not offending others was sometimes constructed as a necessary condition for being assertive; also present was the view that being assertive is inherently offensive. "Assertiveness" carried a sense of strong will, of courage to go against opposition from others, a sense of responsibility, as well as a sense of leadership ability.

**Unique constructions** "Assertive" was idiosyncratically constructed as getting involved or participating in activities to show one's affiliation. Another unique construction took "assertive" to mean demanding attention and understanding from others.

**Misinterpretation** One student participant interpreted "assertive" as how attentive one is to what people are saying or to the surrounding environment.

Table 4.9: Frequency Counts of Meanings of "Assertive"

	Frequency
To have one's way/to go after what one wants	23
To be verbally expressive of one's feelings/opinions	17
To present one's view against perceived or potential resistance	14
To lead others/to give orders	13
To request actions from others to protect own interests/rights	9
To convey disapproval of other's behavior	6
To speak with authority	4
To take the responsibility/initiative to get things done	4
To speak up without offending others	2
To get involved/participate in activities	1
To demand attention and understanding from others	1
<b>Total</b>	<b>94</b>

***Sensitive to the needs of others***

The item was constructed by the participants in a variety of ways. These variations appeared to be the result of how participants interpreted each individual word in the phrase, i.e., "sensitive," "needs," and "others." "Sensitive" was interpreted to mean a mental exercise such as to be aware, to recognize, to be alert, to pay attention, to put oneself in the other's shoes, or to find (it) important; it was taken to mean verbal and behavioral actions, such as to say the proper things, to express one's condolences, to help, to be kinder, or to comply. Being sensitive was also interpreted as an emotional experience: to feel for others, to care. Underlying these interpretations was also the

active-passive dimension, sensitive can mean to take the initiative to detect and to act; sensitive can also mean to passively respond or react to a request.

The word "needs" meant quite a few things to the participants. It was interpreted as an actual need such as food, transportation, or to take off from work. It was also constructed to mean people's feelings (of hurt or anger), or a predicament involving various physical and psychological conditions of a person. Additionally, the meaning of "needs" also covered "wants," wishes and desires. These meanings surfaced in various contexts, such as in general social interactions, work situations, parent-child disciplinary interactions, living conditions of relatives, decision makings, or with regard to the victims of natural disasters.

The word "others" was constructed to mean a particular person, such as a family member, a close friend, a coworker, or a stranger at a party; or it could mean a collective group, such as homeless people. The focus on the word "others" also brought a sense of primacy into the meaning construction - to put others before self, to set one's own "needs" aside.

Collectively, "sensitive to the needs of others" was constructed to mean various things. It included willingness, as in willing to help people with their problems, to consider others' needs or feelings important, or even to set one's own needs aside to meet the needs of others. In terms of ability, it involved detecting and being aware of people's emotions, thoughts and wants, or recognizing the predicament and needs of a person. The item was also read as helping one's relatives or close friends with their emotional/daily living needs; or as broad as "do unto others as you would have them do you." The phrase was also constructed with specific focus to attend to people's feelings, such as "to be careful to not say or do offensive/hurtful things;" or "to speak kind words or be kind to people in distress." There was a sense of the proactive, as in "to incorporate

people's wishes when making decisions/plans," or a sense of responsiveness, as in "to understand people's problems and to help." When situated in the context of conflicts, the item was constructed to mean willingness to compromise, to accommodate, or to give in.

**Unique constructions** One student participant interpreted the item to mean allowing people space, to not intrude, which addresses a specific "privacy" need of people. Another student participant restricted the item to mean "helping those whom one cares about." One student participant interpreted "sensitive" as "to take offense," and "sensitive to the needs of others" as "to take offense by the requests made by others."

Table 4.10: Frequency Counts by Meanings of "Sensitive to the needs of others."

	Frequency
To help people with their problems/needs	22
To be aware of/to recognize what people need	15
To put others before self	14
To be considerate/to consider other's needs as important	12
To watch one's actions/words to not hurt/offend people	10
To attend to peoples' hurt feelings	8
To be able to read peoples' emotions/feelings	6
To take others into considerations when making decisions/plans	5
To be aware of what people want/their thoughts/what's important	3
To feel for people	3
To be kind to people in distress	3
To put oneself in the situation and think about how one should act	2
To give people space/to not intrude	1
To help those one cared about	1
To take offense at the request made by others	1
Total	106

### ***Strong personality***

There were noticeable differences in participants' meaning constructions of this item, including one likely misinterpretation. Five working adult participants acknowledged having difficulty comprehending the item.

There were at least four easily identifiable categories of meanings. "Strong personality" was commonly constructed in the sense of asserting oneself, such as being outspoken, standing up for yourself, and "not letting people walk all over you." On one hand, it referred to someone who is not a follower, who is confident, bold, independent, or individualistic with unique thoughts and unwilling to conform; it was also someone who could articulate and debate, or take charge of people or situations to get things done. On a more negative note, "strong personality" was interpreted as being stubborn, unwilling to change; being overbearing, domineering or imposing. Situated in social interactions, strong personality was construed to mean someone who is outgoing, pleasant, or sociable, as reflected by descriptors such as "talkative," "jokes around," "life of the party," "happy," etc.. In this construction, the item seems to be carrying the same sense as the phrase "someone has a good personality," implying a pleasant and likable character. "Strong" was also interpreted in terms of being readily perceivable. In this sense, strong personality was construed as "personality coming through," or feeling free to display oneself, to express one's emotions and thoughts so that people can know you and your personality. In a similar way, strong personality was also referred to personal characteristics that are easily noticeable, such as people quickly pointing out someone as very meticulous, spontaneous, or annoying. "Strong personality" was also interpreted with a focus on the reaction or attention drawn from others. In this construction, participants reported descriptors such as "standing out," "strong presence," "charismatic," "people notice you," "center of attention," "leaves an impression," "people remember you," or "famous people," as well as "loud" and "demanding people to listen."

**Rare constructions** "Strong" was interpreted as having psychological strength. In this context, strong personality was constructed to mean having inner strength or

having the ability to handle hardship in one's life. It was interpreted as somebody mature, who knows himself well, stable, or somebody who's wise, insightful or knowledgeable.

**Unique construction** One participant interpreted "strong personality" as "willing to be at the center of attention" and as capable of handling attention.

**Misinterpretation** One participant interpreted "strong personality" as people who are "dependable, easy to work with ... helpful, friendly type of person who's willing to work well with other people," which seemed to be a misinterpretation in the current context.

Table 4.11: Frequency Counts by Meanings of "Strong personality."

	Frequency
Being assertive/speaking out/will defend oneself	23
Having socially desirable characteristics	21
Non-conforming	19
Being overbearing	18
Drawing attention from others	18
Taking charge/to lead	13
Personality coming through to others	13
Being stubborn	11
Having characteristic(s) that is easily identifiable by others	5
Having the strength to handle hardship in one's life	3
Mature person	3
Wise person	2
Willing to be the center of attention	1
<b>Total</b>	<b>150</b>

### ***Understanding***

Four working adults reported having difficulty interpreting the item, given that there are many possible meanings.

This item generated a wide range of constructions. At one end of the spectrum, the constructions are charged with feelings or emotions. At the other, the constructions are strictly cognitive or intellectual. At the emotional end, being understanding was often, but not necessarily, situated in someone else's emotional distress, such as grief over death

of a loved one, depression over breakup/divorce. Being understanding, in this sense, is responding sympathetically to another's emotional difficulty (e.g., to feel for the person), possibly paired with actions to comfort the person (e.g., listening) or to make things easier for the person (e.g., to let the person leave work early). "Understanding" was also constructed to mean withholding one's negative emotions against, or to forgive someone for her/his mistakes, or wrongdoings (e.g., failed to keep a promise, missed the assignment deadline, losing living expenses gambling).

Leaning toward the cognitive end of the spectrum, understanding was interpreted as the ability to see things from other people's perspectives, to know where people are coming from, or simply to listen and to understand what people are saying. Along the same line, "understanding" was interpreted as giving people the benefit of doubt, taking other factors into consideration, or not jumping to conclusions. When situated in the context of conflict resolution, "understanding" was further interpreted as setting one's own viewpoints or biases aside, and accepting others' conflicting values, beliefs, opinions or decisions.

Somewhere in the middle of the spectrum, "understanding" was interpreted to mean being considerate of people, to care about them, to be aware of their needs and to accommodate.

At the cognitive end, "understanding" was interpreted strictly as a mental exercise - to have the knowledge of the "whats," "hows" and "whys" of things or people. In this sense, "understanding" was interpreted as to "figure out how things work/to grasp a new concept," "to know someone well," "to have sufficient information before starting a project or making decisions."

**Unique construction** "Understanding" was constructed to mean "to be well prepared, to act properly for a new environment (both physically and culturally)."



Table 4.12: Frequency Counts by Meanings of "Understanding."

	Frequency
To listen to know what people are saying/thinking	23
To be nice about it when people messed up	20
To know why people think a certain way in a situation	18
To know how/why people feel in a situation	18
To be sympathetic when people are upset	16
To set aside own view/feelings	15
To care about people	14
To be flexible	14
To be considerate/to accommodate	13
To be able to relate to a situation or people	8
To know how the world and people work	8
To know what people are going through	7
To know how things work	7
To have sufficient information	6
To know a person well	4
To be knowledgeable about the surroundings	1
<b>Total</b>	<b>192</b>

### ***Forceful***

Ten participants stated the item carried a negative connotation.

The meaning constructions can be easily grouped into two distinct categories: Those constructed along the "physical" dimension and those constructed with psychological or interpersonal properties. In the physical sense, "forceful" was interpreted to mean the energetic state of a person's behavior, such as grabbing something with speed or strength; it was also constructed to mean the application of physical force to someone else, from harmless roughhousing play to violating or harming others, such as forcing someone out of the door or raping someone.

In the non-physical sense, "forceful" was interpreted as a personal characteristic, as someone who's pushy, bossy, or demanding. It was also constructed to refer specifically to certain types of behaviors or actions, including to command, to give orders, to make demands, where people are not given the options and their feelings or

thoughts are not of importance. There may be authority underlying such an act, as in the case of parents, supervisors, or military officers. Being forceful was also constructed to mean insisting that others do things one's way, not backing down on one's request, or manipulating people or situations to get what one wants. On a more

Table 4.13: Frequency Counts of Meanings of "Forceful"

	Frequency
To command/to give orders	23
To insist on doing things one's way	18
To impose one's opinion/belief on others	17
A pushy/demanding/strong willed person	12
To use arguments to persuade others	11
To be outspoken of one's positions/ideas	11
To be persistent with one's request	11
To make people do things against their will	9
Having no concerns for others input/reaction	8
To use physical force against someone	8
To force people to do things for oneself	6
To manipulate to have one's way	5
To communicate with anger	4
To use physical means to make people listen (to interrupt, to talk loud)	4
To achieve one's goal via strategic persuasion	4
To overcome resistance/barriers set up by others	4
To act with physical strength	3
To rough house	3
To be self-determined/disciplined	1
Total	162

constructive note, to be forceful was interpreted to mean strategically achieving one's goal, achieving one's goal with persistence, or overcoming resistance from others to achieve one's goal.

Being forceful was also constructed strictly as a verbal exchange. In this sense, it meant to be vocal or outspoken, to argue with the purpose to persuade, to insist others listen to one's viewpoints/ideas. Additionally, being forceful also meant speaking with a loud voice, speaking with repetitions, speaking with certain gestures, speaking with

certain moods, or talking over people. A special meaning construction in this category was to express one's anger, to speak with anger.

**Unique construction** More idiosyncratically, the meaning of forceful was constructed as an "intra-personal" descriptor, as self-determination, self-discipline, or to put demands on oneself, such as to live or behave a certain way.

### *Compassionate*

The interpretations of this item stood out in two ways: Relative to other items, fewer meanings were generated because more participants constructed only one meaning for "compassionate." Secondly, more participants had difficulty interpreting the item.

"Compassionate" was commonly constructed to mean an altruistic act - to conduct good deeds, to help those in need. However, the context of such good deeds varied widely, such as comforting those in distress, preparing meals for a friend busy with finals, helping the elderly with house chores, donating money to charities, or doing volunteer work to support less fortunate people. As an emotional experience, "compassionate" was feeling someone else's pain and suffering, or to feel sorry for people. In this sense, the meaning was often situated in others' (including animals') mental anguish ( e.g., death of a loved one, losing one's home, ending a romantic relationship) or physical sufferings (e.g., hunger, disability, injured animals). The meaning was further extended to include expressing such feelings to people evoking them or to helping them. "Compassionate" was interpreted as a cognitive understanding of others' unfortunate situation or being empathetic, such as to put oneself in another's shoes, to understand the situation people are in or to understand other's trials and tribulations. The cognitive activities often involved drawing from one's own experiences or placing oneself in the situation.

Other meanings were constructed to include two or more aspects of the meanings mentioned above, such as to understand and to help, to understand and to feel for people, to be empathetic and to take actions, or to understand, to feel sorry and to help. At a more general level, "compassionate" was interpreted as being loving, caring, warm, nice, and understanding. Similarly, it was taken to mean the display of affection or love physically or behaviorally. In a different sense, the meaning of "Compassionate" was situated in others' wrongdoings to self. In this sense, being compassionate referred to not getting angry or aggravated toward the person, and instead to be nice, nonjudgmental, or to forgive. The frequency counts of the constructed meanings are displayed in Table 4.14.

Table 4.14 : Frequency Counts by Meanings of "Compassionate."

	Frequency
To conduct good deeds	17
To feel bad for the misfortune experienced by people or animals	11
Being loving/caring/warm/understanding	10
To understand the situation and to take actions	7
To feel for people and to be supportive	7
To understand people's mistakes and to help/comfort/forgive	7
To be empathetic	6
To express affections or love to others physically or behaviorally	5
To show sorrow & sadness to others' misfortunes	4
To understand and relate to others' pain on an emotional level	4
Intense interests in/feelings towards things	4
To have a lot of feelings for someone you like	1
<b>Total</b>	<b>83</b>

**Unique constructions** One unique construction took "compassionate" to mean "having a lot of feelings for someone you like."

**Misinterpretations** Two participants mistook the item to be synonymous with "passionate." Three students misinterpreted during think-aloud but gave proper examples. One working adult stated having no idea what the word meant. There were other

questionable interpretations, such as having strong feelings or interests in something like sports, religion, dance, or a subject matter.

### ***Has leadership abilities***

All participants appeared to have interpreted the item with ease, as they generated more meanings to this item relative to other items. Participants' interpretations made reference to various aspects or qualities about a person, mostly, but not necessarily, in the context of personal interactions. The properties included personal characteristics, appearance/presentation, knowledge, skills, moral values, etc. Three participants stated leadership abilities would vary depending on the type of leaders, such as political leader or sports coach.

As a personal characteristic, "having leadership abilities" was most commonly interpreted as having a strong personality, which included being outspoken, assertive, forceful, authoritative, and taking charge. It was also being confident, credible and reliable, charismatic, compassionate/understanding, etc. As an ability, it was most commonly interpreted as having good communication skills. Participants viewed leaders as someone who can speak in front of people, can communicate well with group members, as well as with other organizations, including the skill to persuade. Abilities also included being intellectually competent, having the ability to design projects, solve problems, understand multiple issues, analyze information, evaluate options, and to anticipate and prepare for upcoming events. Participants also took it to mean being knowledgeable, having lots of knowledge not only in specific subject matters, but also broadly in knowing the environment and "the system." Having good people skills was also viewed as a leadership quality, such as the ability to talk or relate to all sorts of people, to understand different personalities and group dynamics, to involve and teach people.

There was also the tendency to equate leaders with managers or supervisors and to describe leadership abilities accordingly. Only one participant specifically made the distinction between leaders and managers. As a good manager/supervisor, having

Table 4.15: Frequency Counts of Meanings of "Has Leadership Abilities."

Personal characteristics	Frequency
Strong/assertive/can take pressure	17
Understanding/compassionate	3
Confident	3
Charismatic	2
Likes to be involved in activities	2
Credible/reliable	2
Effective	1
<b>Other meanings</b>	
To have good communication skills	22
Ability to oversee a group of people and activities	18
To make decisions	15
To set directions	14
To be creative	13
To have organizational skills	12
To be knowledgeable	11
To have good people skills	11
To have good people management skills	11
To tell people what to do	11
To correct people's mistakes	11
To have the intellectual/analytical ability	10
To be able to motivate people	10
To be able and willing to take responsibilities	8
To have good work habits	8
To teach people	7
To look out for the group	5
To involve people to generate/improve ideas	3
To have time management skills	2
To help people grow	2
<b>Total</b>	<b>204</b>

leadership abilities was interpreted as having various management skills, including the ability to oversee a group of people and the project, to ensure it is heading in `the right direction, to organize both people and activities, including planning and scheduling, to

make decisions, to delegate tasks, to supervise and to support members, as well as to provide a pleasant environment to keep people happy.

Participants also considered leaders to be someone who works hard, who cares about what he or she is doing, who can take pressure and assume responsibility for people, who can set examples and motivate people, and who looks out for them.

Participants also implied leadership abilities by describing the expected outcomes, such as being able "to cause people to trust you," "to make people want to follow you," "to lead people in the right direction," or "to take charge of people to get things done."

**Unique construction** One participant considered "having leadership abilities" as having the ability to spot and recruit people with talents.

### ***Eager to soothe hurt feelings***

There was a shared element in participants' meaning constructions of this item - not wanting people to feel bad. However, different interpretations of "hurt feelings" and "soothing" seemed to shape the constructions of different meanings for the item.

The item was commonly interpreted as a general attitude of being sympathetic when people are sad or troubled, or simply not wanting to see people upset. Also in general terms, it was interpreted as having the desire to help people who are sad, depressed, or upset to feel better. In a more concrete sense, the item was interpreted as involving the action of talking to people who are sad/upset/depressed, with the intent to comfort, giving encouraging words and pointing out the bright side of things. Eager to soothe was also interpreted as taking actions to relieve people's pain, such as being kinder, doing things to keep the person's mind off of the distressful situation, or correcting the situation that caused the hurt, or taking the initiative to please and to make sure people are feeling OK. Less commonly, it meant to be supportive (e.g., to stay with the person, to listen, to be on their side), to go the extra mile to help someone, to be

affectionate, or to make the person laugh. A rare construction in the "action taking" sense was expressed as resolving conflicts among people to ease their anger or pain.

Table 4.16: Frequency Counts by Meanings of "Eager to Soothe Hurt Feelings."

	Frequency
To talk to someone who is feeling bad	19
Don't like to see people hurt/being sympathetic	18
General desire to help people hurting to feel better	16
To remedy other's hurt caused by self	14
To take actions to relieve people's pain	11
To take the initiative to resolve an argument	10
To check and make sure people's feelings are not hurt	8
To encourage/point out the positive sides	8
To show support	8
To be affectionate to people hurting	6
Willing to apologize for one's wrongdoings	6
Willing to apologize for things said in anger	6
To go the extra mile to help people out	5
To hide one's true feelings/thoughts	5
Eager to help people solve problems/resolve conflicts	4
To make people hurting laugh	3
Keep people from being mad at oneself	3
Total	150

In a different sense, "eager to soothe hurt feelings" was viewed as acknowledging and apologizing for one's own mistakes, such as when having said hurtful or mean things in anger or having wronged someone. The item also meant taking the initiative to resolve a conflict or backing out of an argument one had with someone, such as to be the first to apologize, to set own emotions aside to calm the other person, to resolve issues immediately with the person, or to check in with the person to see how he or she feels after the arguments or disagreement. Situated in the context of inadvertently offending somebody by saying the wrong thing or using the wrong tone, "eager to soothe hurt feelings" was interpreted to mean to feel bad, to apologize, to explain and clarify oneself, and to make sure the person understood that the perceived offense was unintended.



Lastly, "eager to soothe hurt feelings" was described as taking precautions to avoid hurting people, such as to hide what one really thinks or feels, as in "truth hurts." It was also interpreted as not wanting people to be mad at self.

**Unique constructions** One idiosyncratic interpretation took the item to mean soothing one's own hurt feelings. Another participant interpreted the item as a conditional statement, i.e., not deserving to be hurt is a precondition for "eager to soothe."

### ***Willing to take risks***

One participant expressed difficulty interpreting the item given the magnitude of possibilities. The participants constructed a wide range of meanings, despite the presence of a common interpretation of "risks" as, fundamentally, the unknown or potential failure or losses. Willing to take risks was constructed to mean electing to do something despite knowing the potentially negative consequences; it was to jump into something without thinking about the possible outcomes or not being concerned with them. From another angle, the item was constructed to mean going ahead with something because the potential payoff is attractive, or because the odds are in one's favor based on one's calculation (i.e., calculated risk). In a different sense, "willing to take risks" was interpreted as wanting to be different, to not follow the norm or to do things beyond the norm; it was the desire to change, to try something new. As a personal characteristic, "willing to take risks" was taken to mean being unconventional, adventurous, athletic, fearless, adaptable, open minded, curious, etc. Additionally, participants appeared to interpret the word "willing" differently. "Willing" was constructed to mean a personal desire or personal want, such as the desire to have fun or wanting to do things because of the potential attractive payoff. It was constructed to mean a moral obligation, such as to jump into the water to save a person from drowning. It was also constructed to mean a necessity, such as to complete an urgent assignment without following the proper office

procedures. The frequency counts of the different meaning constructions are listed in Table 4.17.

Table 4.17: Frequency Counts by Meanings of "Willing to Take Risks."

	Frequency
To participate in physical activities that create adrenaline rush	21
Willing to do something despite the potentially negative outcome	19
Not cautious/not concerned with outcomes	16
Wanting to try something new to have a good time	12
Willing to do things that may fail but the personal payoff is good	11
To be different/to not follow convention	8
To sacrifice stability and security for a potentially better future	4
Willing to perform a good deed that may harm oneself	4
Willing to not follow the regulations out of necessity	2
Willing to do something when the chance of succeeding is considered good	2
Willing to respond to the "dares" challenged by peers	1
Personal characteristic - not conservative	8
Personal characteristic - not fearful	7
Personal characteristic - to be adventurous	2
Total	117

The meanings of the item often carry different senses as the context of the constructions changes. There are several distinct categories in which the contexts can be grouped (see Table 4.18). In perhaps the simplest context, "willing to take risks" was interpreted as willingness to try something physically dangerous, such as extreme sports, for the sake of getting the adrenaline rush. It may also be a moral act, such as helping someone at the risk of injuring oneself. In the financial sense, the item was constructed to mean the unknown future of an investment, the unstable nature of investing in stocks, in risky business, to start a new business, or to buy/build a house with limited income. Relating to money but in a different sense, "willing to take risks" referred to being willing to gamble, such as playing poker or lottery. In terms of relationships, the item was constructed to mean marrying someone or getting a divorce, starting a relationship with someone, asking somebody out for a date, or dating someone who seemed not one's type.

Each of these situations appeared to convey further nuances in what taking risks means. In terms of life decisions, "willing to take risks" was taken to mean willing to move to a new city, to start a new career. In the sense of obedience, the item was interpreted as not complying with laws, regulations, or the instructions of the authorities, and hoping not to get caught. The item was also interpreted in the sense of everyday risks, such as driving a car, crossing the street. In addition to "risks" to self, participants also included risks to others, such as potentially jeopardizing the security of one's family.

Table 4.18: Frequency Counts by Types of Risks.

Types of risks	Frequency
Physical activities that create an adrenaline rush	21
Financial	18
Physical injury to self/health related	13
Relationships	12
Moving away from hometown	10
Career/job related	8
School related	8
Legal/regulations/policies	8
Gambling	6
Social	5
Friendship	4
Work	3
Personal	2
Daily routine type of risks	2
To take a chance on other people	2
Total	122

**Rare construction** One participant interpreted "willing to take risks" to mean taking a chance on people who may not be trustworthy, such as willingness to send a recovering alcoholic to buy liquor.

**Unique construction** One participant considered responding to "dares" from peers as "willing to take risks."

## ***Warm***

The meanings of "warm," based on the participants' interpretations, can be mostly grouped into two categories. As a quality displayed in social and interpersonal interactions, being warm was being friendly, sociable, open to people, easy to get to know, happy, smiles a lot, courteous, pleasant to be around, affectionate, and/or being hospitable. On the other hand, warm was viewed as a virtuous inner quality. In this sense, being warm was being caring, nice, attentive, non-judgmental, and/or trustworthy. Being warm in this sense may not be as apparent to people as being warm socially. In this construction, the meaning was often situated in specific contexts such as helping people in need, dealing with people who made mistakes, helping a newcomer in a new environment, or being concerned with the well-being of animals. The item was also commonly constructed as someone who makes other people feel comfortable, which may involve both qualities mentioned above. The frequency distribution of various meanings are listed in Table 4.19.

**Rare construction** There were several rare interpretations, such as being maternal or grandmotherly, being generous, "holding on to loved ones," and "making decisions based on emotions." The item was also interpreted in a physical sense, as being physically comforting.

**Unique construction** One participant made a distinction between being genuinely warm and being calculatingly warm. The participant maintained that being warm can be just a superficial act with no sincerity behind it.

Table 4.19: Frequency Counts by Meanings of "Warm."

	Frequency
Being friendly and sociable	25
A nice and caring person	19
Someone who makes people feel comfortable	19
Someone who's open and easy to know	10
Someone who's happy/smiles a lot	9
Being affectionate	9
Being attentive	8
Not being judgmental	8
Someone who's pleasant to be around	8
Being sensitive and helpful to others' needs	7
Someone people can count on	7
Someone who shows interests in a person	6
Being hospitable	6
Someone who enjoys people	6
Someone interacts with people they just met	3
Being grandmotherly/maternal	1
Being generous	1
Being attached to loved ones/making decisions based on emotions	1
Being physically comforting	1
Total	154

### ***Dominant***

Six participants reported "dominant" as carrying a negative connotation; three participants stated "dominant" can be undesirable.

"Dominant" was viewed as a personal characteristic, such as being forceful, being overbearing, being strong, being assertive. Less commonly, it was also described as being knowledgeable, being a bully, seeking attention, being self-centered, being inconsiderate, and being independent (n = 1), etc.

"Dominant" was also interpreted as being in control of another person, a group of people, a situation (e.g., a project, a task, a conversation), or a sports game. Participants cited many different contexts in which dominance is displayed, such as in a romantic relationship/marriage (n = 17), adult-child relationship (n = 11), supervisor-subordinate

relationship (n = 7), group projects (n = 7), social outings (n = 6), sports related activities (n = 5), and family relationship (n = 3). The word appeared to convey different meanings as the circumstances changed. There was a sense of egocentrism when a person imposes his or her will on others to get his or her way, to take over a conversation, or to act superior; a sense of boldness, as in being outspoken. It conveyed a sense of responsibility tied to a given role, such as a parent being in charge of children. It is seen as an acquired power associated with a certain position, such as a business owner or supervisor who pushes employees to get things done. "Dominant" was also viewed as the privilege of having certain mental/physical strength, such as being the smartest person on a group project, being physically strong, or being the better team in a sports game. Being dominant was also interpreted as a necessity when a situation calls for someone to take the lead, to give orders, such as in a disaster.

Table 4.20: Frequency Counts by Meanings of "Dominant."

	Frequency
To have one's way	21
To be the one in control in a relationship	16
To take control of a group/situation	15
To tell people what to do/give orders	14
Someone people follow	9
To take the lead	9
To act superior to others	8
To be in a position with power over others	8
To be in charge of children	6
To take over a conversation	6
To be outspoken	6
To be physically strong	3
To push people to get things done	3
To win in sports	2
To manipulate to get what one wants	2
Someone you notice in a group	2
To have control over animals/environment	1
<b>Total</b>	<b>131</b>

**Rare constructions** There were quite a few unusual interpretations. For instance, "dominant" was interpreted as "someone who stands out or is easily noticeable," "to control animals or the physical environment," or "someone important."

### ***Tender***

This item was unusual in that a large number of participants quoted other items (e.g., "Warm," "Compassionate," "Sympathetic," "Understanding," "Affectionate," and "Eager to soothe hurt feelings") as synonyms. Three participants acknowledged having difficulty interpreting the item.

Participants interpreted "tender" as a general characteristic as well as a specific attitude, behavior, mannerism, or reaction in certain situations. As a general characteristic, "tender" was most commonly viewed as someone who is warm, compassionate, soft and gentle (i.e., not rough), caring and nurturing, sympathetic, affectionate, and sweet. Less commonly, it was viewed as friendly and easy going, kind, giving and generous, and eager to soothe hurt feelings. In the other category, "tender" was often interpreted in terms of behaviors mostly towards spouse, romantic partner, and own children; or behaviors in a given situation. For instance, being tender is being supportive and helpful to loved ones, especially when they are distressed, or to people or animals in need. It was taken to mean behaving carefully not to hurt others' feelings, being soft-hearted or willing to give in to other's wishes, and being non-judgmental and accepting people for who they are. "Tender" referred to a display of love, affection, care, or sympathy through physical contact (e.g., touching, hugging), voice (e.g., speaking in a soft voice or soothing tone), or act (e.g., being playful, befriending people shunned by others). "Tender" was also taken to mean one's own tendency to get hurt or to feel pain when experiencing loss or when watching/reading sad stories. It is also willingness to feel love and hurt or being open to those emotions. From a non-psychological perspective,

"tender" was interpreted as doing things in a careful, delicate, and precise manner. (See Table 4.21 for the frequency counts of these constructed meanings.)

**Rare constructions** The item was interpreted as being maternal. In a very different sense, it was constructed to mean getting physically hurt easily.

**Unique construction** One participant interpreted "tender" as someone who's forgiving.

Table 4.21: Frequency Counts by Meanings of "Tender."

	Frequency
Supportive/helpful to those in need	14
Sensitive to other's feelings	14
Physically display love/care	9
Someone gets hurt easily	8
Emotionally open to love and hurt	8
Physically or behaviorally displaying sympathy	5
Non-judgmental/understanding	5
Soft hearted	3
To act carefully or delicately	3
To speak in a soothing manner/tone	3
To get hurt physically easily	2
Total	74

***Willing to take a stand***

A common theme in the interpretations of this item was the expression of one's thoughts, viewpoints, beliefs and/or values. However, the meanings varied along many dimensions: The expression could be carried out verbally or in action; the stance could be taken against some authorities, or there could be no opposition. Taking a stand could be situated in protecting one's own interests/rights or it could be of an altruistic nature, i.e., to protect others' interests or to resolve conflicts among people. "Willingness" was constructed to mean having courage, such as to present an unpopular view, or in terms of readiness for sacrifice, such as facing potential physical harm, repercussions, or inconveniences.



Along the dimension of verbal presentation, "willing to take a stand" was interpreted simply as willingness to talk about one's views or beliefs about certain things; it was viewed as willingness to argue with people holding different views/beliefs; or as a self righteous declaration with the intent to correct others or condemn different views. Along the dimension of behavioral expression, "willing to take a stand" was interpreted as taking a side on an issue and acting upon it. On the one hand, it referred to being willing to express one's position symbolically, such as putting up yard signs or bumper stickers, participating in demonstrations, contributing money, or becoming a volunteer for certain causes; it also involved taking legal actions. At the more extreme end, "willing to take a stand" referred to becoming an activist, a social movement participant, or to fight or even die for a cause. (See Table 4.22 for the frequency counts for the various meanings constructed.)

Table 4.22 also listed various contexts in which a stand could be taken, such as during social conversations, dealings with authority, dealing with issues related to politics, religion, and morality, project team meetings, classroom discussions, handling conflicts, etc.

**Unique construction** One participant situated his construction in the context of debate, to take a stand was interpreted as an exercise of debate: willing to take a side of an argument and logically defend it without necessarily personally believing in the subject matter.

Table 4.22: Frequency Counts by Meaning and Context of "Willing to Take a Stand."

	Frequency
Willing to express one's position/beliefs/opinions	25
Willing to argue for one's beliefs/values/positions	24
Risking hurting oneself to speak up/to not comply	14
To speak up for self protection	14
To take up/speak up for others	13
To not conform	10
To take side of an issue and act upon it	10
To take immediate actions to correct a wrong	7
Risking offending others to correct their behavior	6
To take up for others at own cost	5
To participate in a debate/argument	4
To confront a conflict to resolve it	3
A leadership quality	3
To demand others behave a certain way	3
To physically fight/die for one's beliefs	3
An activist/social movement worker	2
<b>Total</b>	<b>146</b>
<b>Context of interpretations</b>	
Positions on political/moral/religious issues	23
During project/group meetings	8
Interactions with authority	8
Correcting the behaviors of strangers (not friends)	6
Interactions among family members	5
Classroom discussions	5
Interactions among friends	3
Interactions between spouses/boy-girlfriends	3
To correct friends' behavior	2
When facing conflicts	2

### ***Loves children***

The meanings of "loves children" as constructed by the participants can be grouped into two major categories: loving children because they are a source of joy and loving children because they need to be looked after. In the first sense, "loves children" was interpreted as enjoying being around them, liking to spend time with them, enjoying playing with them or watching them play; it was also interpreted as the appreciation of children's physical (e.g., beautiful, athletic) or psychological (e.g., innocence, curious,

different perspectives) characteristics. In the second category of meaning, "loves children" was interpreted in the sense of looking out for their well-being, nurturing them, caring about their feelings, teaching them, helping them, and protecting them. Additionally, the item was also constructed to mean enjoying working with children, having the desire to raise one's own kids, entertaining children or making them happy, spoiling children, kissing/hugging children, and carrying pictures of children or talking frequently about them. One participant stated that feelings toward children change at different stages of one's life. The frequency counts of the various constructed meanings are presented in Table 4.23.

Table 4.23: Frequency Counts by Meanings of "Loves children."

	Frequency
Enjoy being around children	29
To take care and nurture children	16
Appreciate the psychological qualities of children	13
To be patient/tolerant to children	13
Enjoy working with children	11
To care about children's feelings	9
To make children happy	7
To want to have own children	7
To protect the wellbeing of children	5
To spoil children	5
Enjoys teaching children and helping them grow	5
Enjoy the physical characteristics of children	4
The affection parents have for their own children	4
To hug and kiss children	3
To display one's love for children publicly	2
Total	133

The word "Children" was the focus for some participants' meaning constructions. For instance, loving children was interpreted as loving one's own children (n = 11), relatives who are children (e.g., cousins, nephew/nieces, grandchildren) (n = 17), needy children (n = 5), or any children (n = 19). Those participants who interpreted "children"

as "children in general," stated that they did not consider people who only love their own children as "loves children."

**Rare construction** Loving children was interpreted as publicly displaying personal feelings toward children, such as carrying their pictures or enjoying talking about them.

### *Aggressive*

Eleven participants explicitly stated that the item carried a negative connotation. Among them, five also said being aggressive can be a good thing. Additionally, six participants implied a negative connotation and one participant implied a positive connotation.

The participants constructed a wide variety of meanings for "aggressive." Most of the meanings can be grouped into three distinct categories: pursuing what one wants, overpowering others, and displaying or applying physical force. In the first category, "aggressive" was constructed to mean being self-determined and actively pursuing what one wants, such as finishing a school project, finding a job, paying off debts, finishing a home improvement project, etc. "Aggressive" referred to someone who is energetic and highly motivated, who would take initiatives or take on extra responsibilities. It was also interpreted as defending viewpoints or what one is entitled to, such as a promotion. In a somewhat different view, the item was constructed to mean taking chances to get what one wants. Additionally, when applied in a "sexual" context, "aggressive" was interpreted to mean being flirtatious or taking extra steps to get someone's attention or interest; it also meant to act protectively of one's romantic partner against others.

In the second category, the meaning of "aggressive" was situated interpersonally, to overpower or even to hurt people. In the mildest form, being aggressive was seen as being competitive. More seriously, being aggressive was to step on people or to push

people out of the way to reach one's goal, to push others to go along with what one wants, to have to have one's way, to be persistently pushy in an offensive way, or to be feisty, combative, overbearing, controlling, condescending, mean, or verbally abusive. Being aggressive in this category of construction was to intrude or invade, and to take over what belongs to others. A common but more focused construction in this category situated the meaning in sports, as to play sports competitively or in attack mode, presumably with the purpose to win.

Table 4.24: Frequency Counts by Meanings of "Aggressive."

	Frequency
Someone who's determined to go after what he wants	20
Someone who pushes others to go along with own beliefs/wants	16
Someone who resorts to physical force/violence	14
Someone who's feisty/combative/verbally abusive	10
To push people out of the way/step on people to reach one's goal	10
To play sports competitively	9
Someone who likes to have their way	9
Someone who's too emotional to stay calm	8
Someone who's harsh to people	7
To defend one's beliefs/ideas/entitlement	7
To initiate actions to pursue/protect a romantic partner	6
To pursue one's interests in an offensive way	6
Someone who's socially confident	4
Someone who's competitive	4
Someone who's energetic and highly motivated	4
To cut people off in traffic	3
Someone who takes chances to get what s/he wants	3
Someone who intrudes or invades	3
Someone who will take actions in a situation	2
Someone who has a lot of physical strength	1
Someone who's mentally strong	1
<b>Total</b>	<b>148</b>
Negative connotation	16
Positive connotation	6

In the third category, "aggressive" was constructed in the physical dimension, as in resorting to physical force. On the one end of this dimension, the item was interpreted

as applying physical force to get what one wants, such as grabbing things from people, or to display physical force such as pounding fists when angry; on the other end, "aggressive" was constructed to mean resorting to violence, such as quick to fight someone, inclined to push or hit people. In the context of driving, "aggressive" was interpreted as someone who would cut people off, or zoom in and out of lanes recklessly.

In addition to the three categories, being aggressive was viewed as being too emotional (i.e., to lose control of one's emotions, such as anger, or to act impulsively as in the "adrenaline rush"). Situated in the social or interpersonal context, being aggressive was to approach people to start a conversation, or to not be intimidated by the authority/status of people.

**Unique constructions** One participant interpreted the item as someone with lots of physical strength. Another viewed "aggressive" as a person who's mentally strong.

### ***Gentle***

Participants indicated the item to be synonymous with "Tender," (n = 6) and "Warm" (n = 2). They also incorporated other items in their interpretations, such as "Compassionate," "Understanding," and "Sympathetic." The item "Aggressive," which was listed immediately above the item "Gentle," was often quoted as the antonym of "gentle."

Participants' meaning constructions for this item can be grouped into two distinct categories: Those constructed along a psychological/emotional dimension and those constructed along a physical dimension. In the first category, "gentle" was viewed, in general, as someone who is kind, loving and caring, or being easy going, laid-back, friendly, someone easy to get along with, and who makes people feel comfortable. In a different way, "gentle" was interpreted to mean being passive or submissive, such as being a push-over. With a more specific focus on people's feelings, being gentle referred

to dealing with people carefully so as not to hurt their feelings, or more specifically to speak in a tactful manner, to not raise one's voice. Being "gentle" also meant being responsive to people in need, such as to comfort someone who is (already) hurt, to listen to people with problems, or to take care of people when they are sick. With a focus on behavior, being gentle was taken to mean displaying affectionate and caring behaviors, such as hugging, touching or brushing hair, toward people as well as to pets or animals. It was also interpreted as not rushing, scaring, or shocking people, or being civil and well mannered; and more specifically, to speak in a soft tone, or to be soft-spoken.

In the physical sense, "gentle" was constructed to mean a soft physical touch, to not physically hurt people or to prevent people from being physically hurt. "Gentle" was also interpreted with physical objects in mind, in which case, it was to handle things/objects with care, to prevent damage.

Table 4.25: Frequency Counts by Meanings of "Gentle."

	Frequency
To not hurt people's feelings	21
To be kind, loving, and caring	20
Someone who's responsive to people in need	16
To be easy going	12
To speak in a tactful manner	11
The way you provide care for an infant	9
The affection/caring displayed to pet/animals	9
To handle things/objects carefully	8
To not rush/scare people	7
A soft physical touch	7
Someone who's weak/passive	5
To exhibit affectionate and caring behaviors towards others	5
To handle small/fragile animals with care	5
To prevent/protect people from being physically hurt	4
To speak in a soft tone	3
Total	143

Additionally, meanings of "gentle" were constructed with both psychological and physical characteristics, such as "the way you care for an infant," "the way you handle

small animals," "to pat or be nice to pets," and "to protect pets/animals' welfare." These meanings appeared to have included both the soft, physical handling aspects of being gentle, as well as the affectionate, loving, and caring aspects of being gentle.

**Unique construction** One participant stated that being religious was being gentle.

### **1. Do gender schemas play a role in respondents' interpretations of BSRI items?**

This question was approached by comparing participants' meaning constructions between the two sex groups as well as among the four gender types.

#### **1a. Are there differences between the male and female groups in the way each item is interpreted? Are there similarities in the way items are interpreted within each group?**

To compare meanings constructed by the two sex groups, the summary interpretations of each item were grouped by participants' sex. Properties identified from the meanings constructed for each item were also cross tabulated by sex. Review of these two sets of information reflected many shared interpretations between the two groups as well as differences. The shared meanings were described in the previous section where meaning constructions for each item were presented. The current section will focus on sex differences.

Sex differences were observed in different aspects of the meaning construction process. Most directly, the differences were observed in the interpretation itself. There were also differences in the context in which meaning was situated, including the people involved and the reasons considered for the interpretation, which implicated different meanings despite the similar interpretations on the surface. The two sex groups were also found to have generated different unusual or rare meanings, and, lastly, they reported



different evaluation or the desirability of an item (i.e., the item describes something desirable).

To organize the presentation, items are grouped by the extent sex differences were observed. "Notable" sex differences are determined if an item met the following criteria: (1) One or more constructed meanings showed substantial frequency count differences (i.e., 6 or more) between the two sex groups; and (2) four or more constructed meanings showed moderate frequency count differences (i.e., 3 to 5) between the two sex groups. The second criterion may be substituted if only three meanings showed moderate group frequency count differences, but there is two or more meanings with substantial group differences or there are 2 or more meanings constructed exclusively by one sex group. "Moderate" group differences are determined based on the same categories, but to a lesser extent. For example, an item will be considered showing moderate sex differences if there is one meaning with substantial group frequency count differences, but only two other meanings showed moderate frequency count differences; or the item may have several meanings that showed moderate differences and two or more meanings constructed exclusively by one group, but has no meanings with substantial group frequency count differences. Items with "minimal" group differences are identified when there is one or two meanings with group frequency count differences of 5.

### ***Items with notable sex differences***

The following items appeared to show the greatest sex differences in the constructed meanings.

#### Affectionate

Sex differences were readily notable by reviewing the summary interpretations of the item (Appendix E). There appeared to be a more homogeneous construction among the female participants, with a focus on the physical and verbal expressions of affection.

Such an emphasis was not as strong among the male participants' constructions. Present in the male participants' interpretations were additional attributes such as trust, sentiments, acknowledgment of appreciation, and drawing the line between publicly versus privately displaying affection.

As reflected in Table 4.26, the female group stood out in its high referencing of the "touchy-feely" property of being affectionate, and to the lesser extent, other physical and verbal expressions of affection. Relative to the female participants, the male participants were more likely to frame the interpretation in a romantic context, and as ways of taking care of some situation. The unique interpretation provided by one female participant situated the meaning in the mother-children relationship. The two idiosyncratic meanings generated by the male participant situated the meaning in the context of sentiments and appreciation.

Table 4.26: Meanings of "Affectionate" by Sex of Participants

	Total	Female	Male
Show affection through physical contact/touchy-feely	29	20	9
Being caring/loving/warm/compassionate/nice to others	15	8	7
Able/willing to show one's emotions/feelings	12	6	6
Display affection verbally	11	7	4
Being friendly through physical touch or words	10	6	4
Display of affection towards one's romantic partner	10	3	7
Public display of affection	9	5	4
Show affection physically/verbally to pets/animals	7	4	3
To take care of problems/needs for someone	5	1	4
Being close/open/personal to someone	4	3	1
Being warm/nurturing/nourishing/loving to one's children	1	1	0
Show one's sentiment/being lovey-dovey	1	0	1
Acknowledge/appreciate what others did for you	1	0	1
<b>Total</b>	<b>115</b>	<b>64</b>	<b>51</b>

The two sexes also differed somewhat in the type of people to whom they would be affectionate. As indicated in Table 4.27, more female participants, relative to the male participants, cited family members and friends as the target for being affectionate. In

contrast, more male participants mentioned girlfriends as the person to whom they were affectionate. Additionally, the male participants reported more factors that they considered and that would influence their affectionate behavior, such as trusting the person, being angry with the person, being in the right mood, being an emotional person, being in public, fear of being misinterpreted, etc. None of these factors were described by the female participants.

Table 4.27: Target of Being "Affectionate" by Sex of Participants

	Female	Male
Family	13	10
Relatives	3	2
Close friends/school friends	9	3
Acquaintances	1	1
Children	1	0
Older women	0	1
People in general	2	1
People one likes/loves	4	5
Romantic partner	6	11
Pets/animals	5	5

#### Eager to soothe hurt feelings

Comparing the frequency counts between the two sex groups (Table 4.28) indicated some sex differences. For instance, relative to the male counterpart, the female participants referenced notably more sympathetic attitudes such as “don’t like to see people hurt,” and more actions such as “to do something to help people feel better.” On the other hand, the male participants referenced more having the desire to help people who are hurting to feel better. They also were unique in referencing properties like “willing to apologize for one’s wrongdoings,” “to go the extra mile to help people out,” and “to hide one’s true feelings and thoughts from the person hurting.”

Table 4.28: Meanings of "Eager to Soothe Hurt Feelings" by Sex of Participants

	Total	Female	Male
To talk to someone who is feeling bad	19	9	10
Don't like to see people hurt/being sympathetic	18	13	5
General desire to help people hurting to feel better	16	6	10
To remedy other's hurt caused by self	14	7	7
To do something to help people relieve the pain	11	9	2
To take the initiative to resolve an argument	10	5	5
To check and make sure people's feelings are not hurt	8	5	3
To encourage/point out the positive sides	8	5	3
To show support	8	4	4
To be affectionate to people hurting	6	4	2
Willing to apologize for one's wrongdoings	6	1	5
Willing to apologize for things said in anger	6	4	2
To go the extra mile to help people out	5	1	4
To hide one's true feelings/thoughts	5	1	4
Eager to help people solve problems/resolve conflicts	4	1	3
To make people hurting laugh	3	3	0
Keep people from being mad at oneself	3	2	1
Total	150	80	70

### Forceful

It is quite easy to sense the sex differences by reading the summary interpretations of the item (Appendix E). While the female participants commonly interpreted the word by using general, personal descriptors such as "bossy," "pushy," or "strong willed," the male participants did not consider the item a personal characteristic. They tended to use situations or concrete descriptions to construct the meanings. This difference is reflected also in Table 4.29. As indicated by the total frequency counts, the two sex groups differed on their referencing of eight properties: The females were more likely than the males to reference properties such as "pushy person," "to be persistent with one's request," "to force people to do things for oneself," and "to manipulate to have one's way," whereas the males were more likely to reference "to insist on doing things one's way," "to impose one's opinion/beliefs on others," "to use arguments to persuade," and "to have no

Table 4.29: Meanings of "Forceful" by Sex of Participants

	Total	Female	Male
To command/to give orders	23	12	11
To insist on doing things one's way	18	6	12
To impose one's opinion/belief on others	17	6	11
A pushy/demanding/strong willed person	12	9	3
To use arguments to persuade others	11	1	10
To be outspoken of one's positions/ideas	11	6	5
To be persistent with one's request	11	8	3
To make people do things against their will	9	5	4
To have no concerns for others input/reaction	8	2	6
To use physical force against someone	8	4	4
To force people to do things for oneself	6	6	0
To manipulate to have one's way	5	4	1
To communicate with anger	4	1	3
To use physical means to make people listen	4	1	3
To achieve one's goal via strategic persuasion	4	2	2
To overcome resistance/barriers set up by others	4	2	2
To act with physical strength	3	1	2
To rough house	3	1	2
To be self-determined/disciplined	1	1	0
Total	162	78	84

concerns for others' input/reactions." While the male participants seemed to be more determined and task oriented, the female participants seemed to be focused more on a personal level in their constructions.

#### Has leadership abilities

Comparing the frequency counts between the two sex groups (Table 4.30) indicated that female participants referenced noticeably more personal characteristics as leadership abilities, with a focus on the "strong" characteristic (e.g., assertive). In contrast, the male participants referenced more non-personal qualities such as "to oversee people and activities," "to set directions," "to make decisions," "to correct people's mistakes," "to have the intellectual abilities" and "to teach people."

Table 4.30: Meanings of "Has leadership abilities" by Sex of Participants

	Total	Female	Male
<b>Personal characteristics</b>			
Strong/assertive/can take pressure	17	12	5
Understanding/compassionate	3	3	0
Confident	3	2	1
Charismatic	2	2	0
Likes to be involved in activities	2	0	2
Credible/reliable	2	1	1
Effective	1	0	1
<b>Total</b>	<b>30</b>	<b>20</b>	<b>10</b>
Good communication skills	22	10	12
To oversee a group of people and activities	18	6	12
To make decisions	15	6	9
To set directions	14	4	10
To be creative	13	7	6
To have organizational skills	12	7	5
To be knowledgeable	11	7	4
To have good people skills	11	5	6
To have good people management skills	11	5	6
To tell people what to do	11	6	5
To correct people's mistakes	11	3	8
To have the intellectual/analytical ability	10	3	7
To be able to motivate people	10	4	6
To be able and willing to take responsibilities	8	6	2
To have good work habits	8	7	1
To teach people	7	2	5
To look out for the group	5	3	2
To involve people to generate/improve ideas	3	1	2
To have time management skills	2	1	1
To help people grow	2	2	0
<b>Total</b>	<b>204</b>	<b>95</b>	<b>109</b>

The two groups also differed in the context in which they explained leadership abilities, as indicated in Table 4.31. Not only did the male participants provide a larger variety of situations to explain the meaning of leadership abilities than the female participants, they were also unique in their tendency to use sports and the "father" role to explain what leadership meant.

Table 4.31: Context of Leadership Abilities by Sex of Participants

	Female	Male
Work situations	8	13
Student organizations	6	5
Sports team	1	7
School project	2	4
Other organizations (neighborhood organization/garden club)	2	1
Social outing	1	1
Being a parent	0	2
Travel - road trip	0	1
Church pastor	1	0
President Bush	0	1
Disaster	0	1
Total	21	36

Strong personality

As indicated by the frequency counts from Table 4.32, there are noticeable sex differences. The male participants appeared to situate the interpretation of the phrase more in a social or interpersonal context, whereas the female participants tended to view it from the perspective of psychological strength of or within a person. This is reflected by the apparent contrast between the two groups on how each referenced the two properties "having socially desirable personality" and "personality coming through to others." The sociable, pleasant aspect of the meaning was the most frequently referenced property by the male participants. In contrast, the "assertive" and "non-conforming" aspects were the most frequently referenced properties by the female group. Additionally, only female participants included the properties "ability to handle hardship" and "maturity" in their meaning constructions. This observation was confirmed again in participants' descriptions on the effect of having a strong personality: while only three female participants stated that people would notice a strong personality, 11 male participants said that people get to know a person with a strong personality or they notice a person with a strong personality.

Table 4.32: Meanings of "Strong personality" by Sex of Participants

	Total	Female	Male
Being assertive/speaking out/will defend oneself	23	13	10
Having socially desirable characteristics	21	6	15
Non-conforming	19	12	7
Being overbearing	18	8	10
Drawing attention from others	18	9	9
Taking charge/to lead	13	6	7
Personality coming through to others	13	3	10
Being stubborn	11	7	4
Having characteristic(s) that is easily identifiable by others	5	1	4
Having the strength to handle hardship in one's life	3	3	0
Mature person	3	3	0
Wise person	2	1	1
Willing to be the center of attention	1	0	1
Total	150	72	78

### Understanding

As reflected by the summary interpretations of this item (Appendix E), it is easy to sense that the female participants' interpretations appeared to focus more on the "caring," "being nice to others," and "setting own views aside" aspects of the meaning, whereas the male participants' meaning constructions focused more on the cognitive or information aspects of the properties. This difference is readily noticeable in Table 4.33, where the frequency counts indicated that male participants were more likely to reference properties of a cognitive nature, such as "to understand other people's viewpoints," "to know why people think a certain way in a given situation or where they're coming from," "to know how things work," and "to have sufficient information." In contrast, female participants were more likely to reference properties of a caring nature, such as "to be sympathetic when people are upset," "to be considerate."



Table 4.33: Meanings of "Understanding" by Sex of Participants

	Total	Female	Male
To listen to know what people are saying/thinking	23	10	13
To be nice about it when people messed up	20	11	9
To know why people think a certain way in a situation	18	6	12
To know how/why people feel in a situation	18	9	9
To be sympathetic when people are upset	16	11	5
To set aside own view/feelings	15	9	6
To care about people	14	8	6
To be flexible	14	8	6
To be considerate/to accommodate	13	10	3
To be able to relate to a situation or people	8	3	5
To know how the world and people work	8	4	4
To know what people are going through	7	3	4
To know how things work	7	2	5
To have sufficient information	6	1	5
To know a person well	4	2	2
To be knowledgeable about the surroundings	1	0	1
<b>Total</b>	<b>192</b>	<b>97</b>	<b>95</b>

### Gentle

As indicated in Table 3.34, the female participants generated more meanings, and they used more generic personal descriptors (e.g., caring). In comparison, the male participants constructed fewer meanings and tended to use more concrete or specific behavioral descriptions. Specifically, the female group used personal descriptors such as tender, warm, kind, caring, and loving much more than the male group. They also referenced more properties like "to be responsive to people in need," "to be passive," and "to behave affectionately." The properties "to speak tactfully," "to handle things/objects carefully," and "to protect people from being physically hurt" were referenced relatively more frequently by the male group. "To not hurt people's feelings" was the most commonly constructed meaning for the male group. "To be kind, loving and caring" was the most frequent interpretation for the female group.

Table 4.34: Meanings of "Gentle" by Sex of Participants

	Total	Female	Male
To not hurt people's feelings	21	11	10
To be kind, loving, and caring	20	13	7
Someone who's responsive to people in need	16	11	5
To be easy going	12	7	5
To speak in a tactful manner	11	4	7
The way you provide care for an infant	9	5	4
The affection/caring displayed to pet/animals	9	5	4
To handle things/objects carefully	8	3	5
To not rush/scare people	7	3	4
A soft physical touch	7	4	3
Someone who's weak/passive	5	4	1
To exhibit affectionate and caring behaviors towards others	5	4	1
To handle small/fragile animals with care	5	3	2
To prevent/protect people from being physically hurt	4	1	3
To speak in a soft tone	3	2	1
Somebody who's religious	1	1	0
Total	143	81	62

*Items with moderate sex differences*

Assertive

Contrasting the summary interpretations of the two groups (Appendix E) revealed that the male participants tended to construct the meaning of "assertive" with more force or actions, as indicated by the common referencing of descriptors like "facing resistance," "taking actions," "taking charge," "giving orders," "forcing one's way," etc.. In contrast, such energy is not as readily detected in the female group. Instead, the meaning of "assertive" was constructed by the female participants using concepts like "not offending others," "expressing anger/negative feelings," "making the efforts," "protecting one's interests/rights" etc. Table 4.35 reflected similar differences. For instance, more male participants, relative to the female participants, incorporated the concept of "resistance" when constructing the meaning of "assertive." Female participants referenced more "open

with own feelings/opinions" instead. Only female participants assigned "not offending others" as an attribute to being assertive.

Table 4.35: Meanings of "Assertive" by Sex of Participants

	Total	Female	Male
To have one's way/to go after what one wants	23	10	13
To be verbally expressive of one's feelings/opinions	17	11	6
To present one's view against perceived or potential resistance	14	4	10
To lead others/to give orders	13	7	6
To request actions from others to protect own interests/rights	9	4	5
To convey disapproval of other's behavior	6	4	2
To speak with authority	4	1	3
To take the responsibility/initiative to get things done	4	3	1
To speak up without offending others	2	2	0
To get involved/participate in activities	1	0	1
To demand attention and understanding from others	1	0	1
Total	94	46	48

Additionally, the reasons for being assertive also showed some sex differences. While more females quoted protecting oneself as a reason for being assertive, more males quoted self confidence as the reason (Table 4.36).

Table 4.36: Frequency Counts of Reasons for Being Assertive by Sex of Participants

	Female	Male
Strong personal preference or desire for something	7	10
Confident with one's approach/opinion/solution	4	9
Perceive the needs to/Consider it important	6	5
To correct other's behavior	5	4
To disagree or to counter a view	3	5
To protect one's interests/rights	6	2
To discipline or to manage	1	0
To exercise authority	2	0
To impress	1	0
To satisfy the need to be understood/to be heard	0	1

### Dominant

As a personal characteristic, the male group tended to use the descriptor "forceful" to interpret being dominant (n = 7 versus 3 among females), whereas the

female group tended to use "overbearing/controlling" (n = 6 versus 2 males) and "strong" (n = 4 versus 2 males). Table 4.37 also reflected some sex differences: relative to the male participants, the females were more likely to reference "the one in control in a relationship" and "to have one's way;" male participants, on the other hand, were more likely to incorporate the properties "telling people what to do/giving orders" and "taking control of a group or situation" in their meaning constructions. Such a difference was observed again when the contexts of the "dominant" examples were tabulated: 11 female participants, versus 6 males, used boyfriend-girlfriend relationships/ marriage to illustrate what "dominant" meant; the male participants, however, gave more examples using adult-children relationships (n = 7 vs. 2 females), group projects (n = 5 vs. 2) and sports (n = 4 vs. 1).

Table 4.37: Meanings of "Dominant" by Sex of Participants

	Total	Female	Male
To have one's way	21	12	9
To be the one in control in a relationship	16	10	6
To take control of a group/situation	15	6	9
To tell people what to do/give orders	14	5	9
Someone people follow	9	4	5
To take the lead	9	5	4
To act superior to others	8	4	4
To be in a position with power over others	8	3	5
To be in charge of children	6	3	3
To take over a conversation	6	3	3
To be outspoken	6	3	3
To be physically strong	3	2	1
To push people to get things done	3	2	1
To win in sports	2	1	1
To manipulate to get what one wants	2	1	1
Someone you notice in a group	2	2	0
To have control over animals/environment	1	0	1
<b>Total</b>	<b>131</b>	<b>66</b>	<b>65</b>

## Independent

As indicated by Table 4.38, female participants' meaning constructions of "independent" appeared to put more emphasis on having financial security, having the ability to take care of daily needs and responsibilities, having the ability to perform/to get things done, and having psychological strength (e.g., spend time alone, not concerned with what people think). They were also unique in considering starting a new life in a new place as being independent. On the other hand, male participants stood out in situating the meaning of "independent" in a power structure, such as "not having to answer to somebody," and "refusing help or input."

Table 4.38: Meanings of "Independent" by Sex of Participants

	Total	Female	Male
Financially providing for oneself	23	13	10
Able to take care of one's daily needs and responsibilities	21	12	9
Ability to perform tasks/get things done by oneself	18	11	7
Able to form own opinions/conclusions/make decisions	16	7	9
Able/prefer to spend time alone	14	8	6
Being one's own person/not worrying about what people think	12	8	4
Don't have to answer to people	9	3	6
Being one's own leader/resist peer pressure	5	2	3
Refuse help/input from others	4	1	3
Ability to start a new life in a new city/country	3	3	0
Ability to lead others	2	1	1
Making decisions with spouse without outside directions	1	0	1
Total	128	69	59

When the examples of being independent were tabulated, there were also interesting sex differences, as indicated in Table 4.39. It appeared that the stereotypically female tasks (e.g., feeding oneself, taking care of kids) were less likely to be cited as examples of being independent by female participants, and vice versa (e.g., having a job, performing car maintenance, paying bills). More male participants cited taking care of pets and kids as examples of being independent. Also worth noting was that the male

participants cited children, the elderly, patients, "low life," and women as examples of "dependent" people, whereas women only cited women.

Table 4.39: Examples of Being Independent by Sex of Participants

Examples	Total	Female	Male
having a job	10	7	3
having own apartment/house	6	4	2
feeding oneself (preparing meal, grocery shopping)	9	2	7
doing own laundry	5	4	1
going to the doctors	2	2	0
providing own transportation	4	1	3
pay bills on time/balance checkbook	7	5	2
handle work in the office without help	2	0	2
perform car maintenance/repair	2	2	0
maintain one's property (home)	4	1	3
move to a new town	5	4	1
choosing own beliefs	2	0	2
taking care of one's pet/kids	6	1	5
feeling comfortable with who you are	5	4	1
Total	69	37	32

#### Sensitive to the needs of others

As indicated by the frequency counts (Table 4.40), the female group had richer meaning constructions than the male group, as they referenced more properties. The two groups differed mainly in the incorporation of three properties: "to consider other's needs important," "to be able to read people's feelings" and "to be aware of what's important to people." More female participants interpreted the phrase as being considerate of others' needs, and only female participants incorporated the other two properties in the meaning constructions. The unique constructions were also provided by the female participants.

Additionally, ten females, versus five males, quoted self-centeredness or selfishness for not being sensitive to the needs of others; five females, versus one male, mentioned lack of awareness of others' needs as the reason for not being sensitive; three

males, and no females, reported "not viewing the situation as a problem" or "not understanding the problems" as reasons for not being sensitive.

Table 4.40: Meanings of "Sensitive to the needs of others" by Sex of Participants

	Total	Female	Male
To help people with their problems/needs	22	10	12
To be aware of/to recognize what people need	15	8	7
To put others before self	14	7	7
To be considerate/to consider other's needs as important	12	8	4
To watch one's actions/words to not hurt/offend people	10	6	4
To attend to peoples' hurt feelings	8	4	4
To be able to read peoples' emotions/feelings	6	6	0
To take others into considerations when making decisions/plans	5	3	2
To be aware of what people want/what's important to them	3	3	0
To feel for people	3	1	2
To be kind to people in distress	3	2	1
To put oneself in a situation and think about how one should act	2	1	1
To give people space/to not intrude	1	1	0
To help those one cared about	1	1	0
To take offense at the request made by others	1	0	1
<b>Total</b>	<b>106</b>	<b>61</b>	<b>45</b>

### Tender

For the item "Tender," the female participants incorporated more personal characteristics such as "caring/nurturing," "nice/sweet," or "giving/generous" in their meaning construction. "Eager to soothe hurt feelings" and "loving" were exclusively referenced by the female participants. The male group, on the other hand, referenced relatively more properties such as "Someone gets hurt easily," "Emotionally open to love/hurt" more than the female group. "To speak in a soothing manner/tone," and "Someone gets hurt easily physically" were referenced only by the male group. Sex differences were also noticeable when the contexts of the examples were analyzed. As reflected in Table 4.41, while the female participants cited more examples in the context of parent-child interactions, men-women relationships, towards baby/children in general,

Table 4.41: Personal Characteristics and "Context" of "Tender" by Sex of Participants

	Total	Female	Male
Warm	14	8	6
Compassionate	13	7	6
Soft/gentle (not rough)	11	7	4
Caring/nurturing	10	7	3
Sympathetic	8	4	4
Affectionate (love-dovey)	6	4	2
Nice/sweet	6	5	1
Friendly/easy going	5	2	3
Kind	5	3	2
Giving/generous/unselfish	4	3	1
Eager to soothe hurt feelings	3	3	0
Loving	3	3	0
Maternal	2	1	1
Forgiving	1	1	0
<b>Total</b>	<b>91</b>	<b>58</b>	<b>33</b>
Supportive/helpful to those in need	14	6	8
Sensitive to other's feelings	14	7	7
Physically display love/care	9	6	3
Someone gets hurt easily	8	2	6
Emotionally open to love and hurt	8	2	6
Physically or behaviorally display sympathy	5	2	3
Non-judgmental/understanding	5	4	1
Soft hearted	3	2	1
To act carefully or delicately	3	3	0
To speak in a soothing manner/tone	3	0	3
Someone gets hurt easily physically	2	0	2
<b>Total</b>	<b>74</b>	<b>34</b>	<b>40</b>
Context of meanings			
Mother toward infants	1	1	0
Parents to children/hurting children	8	5	3
To mother/grandparent who's feeling bad	3	2	1
Between a man and a woman/when one is feeling bad	8	5	3
Towards people one loves	6	3	3
Towards friends who're hurting	2	0	2
General social interaction mannerisms	2	1	1
Towards baby/children	4	4	0
Towards people in need	4	1	3
Towards animals/needy animals	5	4	1
Towards one's own loss	3	0	3
When watching/reading sad movies/stories	6	2	4
<b>Total</b>	<b>52</b>	<b>28</b>	<b>24</b>



and towards animals, the males cited more examples in the context of reading sad stories/watching sad movies, towards own loss, and towards people in need.

### Warm

Similar to the meaning construction of "Tender," the female group used much more generic personal descriptors such as caring, kind, friendly, sociable, open, affectionate, etc. to construct the meaning of "Warm;" whereas the male group's constructions tended to focus on ways of behaving, such as talking to people, helping people in need, making friends easily. While the two groups did not differ in the number of times the property "being friendly and sociable" was referenced, this property stood out in the male group as the most frequently constructed meaning (Table 4.42).

Table 4.42: Meanings of "Warm" by Sex of Participants

	Total	Female	Male
Being friendly and sociable	25	13	12
A nice and caring person	19	12	7
Someone makes people feel comfortable	19	11	8
Someone who's open and easy to get to know	10	6	4
Someone who's happy/smiles a lot	9	4	5
Being affectionate	9	6	3
Being attentive	8	5	3
Not being judgmental	8	4	4
Someone who's pleasant to be around	8	4	4
Being sensitive and helpful to others' needs	7	1	6
Someone people can count on	7	3	4
Someone who shows interests in a person	6	3	3
Being hospitable	6	3	3
Someone who enjoys people	6	3	3
Someone interacts with people they just met	3	2	1
Being grandmotherly/maternal	1	1	0
Being generous	1	1	0
Attached to loved ones/making decisions based on emotions	1	1	0
Being physically comforting	1	0	1
Total	154	82	72

### *Items with small sex differences*

Small but important differences were observed in the way the two sex groups interpreted the items "Aggressive," "Willing to take a stand," and "Willing to take risks." For instance, there were 7 male participants interpreted "aggressive" in the context of playing sports, while only two females made such reference. There were 12 males situated "willing to take risk" in terms of willing to do something despite the potentially negative outcome, while only 7 females made such interpretation. There were 9 females interpreted "willing to take a stand" as "to take up or speak up for others," while only 4 males did so.

#### **1b. Are there differences in the way the items are interpreted among the four gender types as measured by BSRI? Are there similarities within each group?**

As mentioned before, BSRI has been used to classify a person, based on subscale scores, into one of the four gender types: Androgynous (A), Feminine (F), Masculine (M), and Undifferentiated (U). In general, people categorized as Feminine or Masculine are viewed as being gender schematic, although in different ways based on different theories, i.e., Bem's gender schema theory (1982) and Markus' self-schema theory (Markus et al., 1982). The Androgynous group has been proposed to be gender schematic according to the self-schema theory, but not by the other. The Undifferentiated are viewed by both theories as "gender" aschematic. The current study consisted of nine participants in the A, F, and M groups, and 13 in the U group. To compare meaning constructions among these four gender types, properties identified from the meanings constructed for each item were cross tabulated by gender types. The frequency counts for the U group were adjusted by a factor of 9/13 to make them comparable to the other three.

There were group differences in the way they interpreted the items. Attempts were made to group the results before presenting. For instance, the first group consists of items where meanings constructed by the F and M groups appeared to be different from those constructed by the A and U groups. The second group consists of items where the four gender types seemed to differ from one another. The third group consists of items where minimal but important group differences were found.

***Items where the F and M groups' meaning constructions were more distinct***

Items included in this category are those where different interpretations were observed in the F and M groups but not the others. These distinct meaning constructions may differ between the F and the M groups, in addition to standing out from the A and the U groups.

Affectionate

As Table 4.43 frequency counts indicate, the F group generated the most properties and the M group the least. The interpretations of the F group tend to cluster around two categories: "physical display of affection" and "being caring, loving, warm, compassionate, and nice." In fact, these two properties accounted for 50% of the meanings constructed by the Feminine participants. Additionally, the F group also differed from the other three groups in not interpreting "affectionate" as "being friendly." In contrast, the Masculine participants tended not to see "affectionate" as "showing emotions/feeling" or "showing affection physically/verbally to pets/animals." These two groups were also unique in the types of people to whom they claimed to be affectionate. While more than half of the Feminine participants reporting family members and friends as people toward whom they are affectionate, one third of the Masculine participants cited their romantic partners. In comparison, the Androgynous participants reported family members and romantic partners as people toward whom they are affectionate

(which accounted for more than half of the total number provided). The U group did the show such a pattern.

Table 4.43: Meanings of "Affectionate" by Gender Types

	A	F	M	U
Show affection through physical contact/touchy-feely	7	9	5	5.5
Being caring/loving/warm/compassionate/nice to others	2	6	3	2.8
Able/willing to show one's emotions/feelings	3	2	1	4.2
Display affection verbally	3	2	3	2.1
Being friendly through physical touch or words	2	1	3	2.8
Display of affection towards one's romantic partner	2	2	2	2.8
Public display of affection	2	2	1	2.8
Show affection physically/verbally to pets/animals	2	3	1	0.7
To take care of problems/needs for someone	1	1	2	0.7
Being close/open/personal to someone	1	1	2	0.0
Being warm/nurturing/nourishing/loving to one's children	1	0	0	0.0
Show one's sentiment/being lovey-dovey	0	0	0	0.7
Acknowledge/appreciate what others did for you	0	1	0	0.0
Total	26	30	23	24.9

### Aggressive

As reflected in Table 4.44, there are noticeable differences among the four gender types in their meaning constructions, but the F and the M groups appeared to have more unusual constructions. These two groups reported the highest (M group, 4.3) and the lowest (F group, 2.0) mean self-ratings, but generated similarly higher numbers of meanings than the other two groups. More than 25% of the Masculine participants viewed "aggressive" in terms of "resorting to physical force or violence" and "to play sports competitively." In contrast, "to play sports competitively" was not mentioned by any of the Feminine participants. Instead, more than 50% of their interpretations used properties of a social or psychological nature, such as "someone who's feisty, combative, verbally abusive," "someone who pushes others to go along with own beliefs/wants," "someone who's too emotional to stay calm," "someone who defends his beliefs/ideas/entitlement," "someone who's harsh to people," and "someone who intrudes

or invades." The Androgynous appeared to view "aggressive" more as goal oriented behavior as reflected by their preferences for properties such as "determined to go after what one wants," "to step on people to reach one's goal," and "to take chances to get what one wants."

Table 4.44: Meanings of "Aggressive" by Gender Type

	A	F	M	U
Someone who's determined to go after what he wants	5	3	5	4.8
Someone who pushes others to go along with own beliefs/wants	3	5	3	4.2
Someone who resorts to physical force/violence	1	4	7	1.4
Someone who's feisty/combative/verbally abusive	1	5	3	0.7
To push people out of the way/step on people to reach one's goal	4	2	2	1.4
To play sports competitively	2	0	4	2.1
Someone who likes to have their way	1	1	2	3.5
Someone who's too emotional to stay calm	0	4	3	0.7
Someone who's harsh to people	0	3	1	2.1
To defend one's beliefs/ideas/entitlement	2	3	1	0.7
To initiate actions to pursue/protect a romantic partner	0	2	1	2.1
To pursue one's interests in an offensive way	1	1	2	1.4
Someone who's socially confident	0	2	2	0.0
Someone who's competitive	2	1	1	0.0
Someone who's energetic and highly motivated	2	1	0	0.7
To cut people off in traffic	0	0	0	2.1
Someone who takes chances to get what s/he wants	2	0	0	0.7
Someone who intrudes or invades	0	2	0	0.7
Someone who will take actions in a situation	1	0	1	0.0
Someone has a lot of physical strength	0	1	0	0.0
Someone who's mentally strong	0	0	1	0.0
Total	27	40	39	29.1

#### Compassionate

The F and M groups' meaning constructions of the item appeared to be very similar to each other, as reflected by the frequency distributions as well as the total frequency counts. However, they appeared to be different from the A and U groups. For instance, "to conduct good deeds" was the most common interpretation by the Feminine and Masculine participants. Such a focus was not observed in the other two groups. As

reflected in Table 4.45, while the Undifferentiated participants tended to view "compassionate" in terms of own feelings, the Androgynous participants appeared to focus on displaying feelings and acting lovingly toward others.

Table 4.45: Meanings of "Compassionate" by Gender Types

	A	F	M	U
To do good deeds	3	5	5	2.8
To feel bad for the misfortune experienced by people/animals	1	3	2	3.5
Being loving/caring/warm/understanding	3	2	3	1.4
To understand the situation and to take actions	0	3	2	1.4
To feel for people and to be supportive	0	1	1	3.5
To understand people's mistakes and to help/comfort/forgive	2	2	3	0.0
To be empathetic	0	3	1	2.1
To express affections/love to others physically or behaviorally	3	0	1	0.7
To show sorrow & sadness to others' misfortunes	3	0	0	0.7
To understand and relate to others' pain on an emotional level	1	1	1	0.7
Intense interests in/feelings towards things	1	1	1	0.7
To have a lot of feelings for someone you like	0	0	1	0.0
Total	17	20	21	17.3

#### Eager to soothe hurt feelings

The frequency counts from Table 4.46 indicated the Feminine participants were unique in referencing much higher number of properties than the other three groups. Their interpretations appeared to be more similar to those constructed by the A group, but stood out in their focus on properties like "to take actions to relieve people's pain," "to encourage/point out the positive sides," "to make people hurting laugh." The M and the U groups generated comparable numbers of meanings but with noticeable differences. The M group's meaning constructions stood out in two ways: (1) Their interpretations were built on fewer properties and with a focus on helping people, such as "general desire to help people hurting to feel better," "to show support," and "to go the extra mile to help people out." (2) There were five properties that were referenced by other groups but not by the M group at all: "to remedy hurting someone unintentionally," "to take the

initiative to resolve an argument,” “to encourage,” “to make people laugh,” and “don’t like people to be mad at oneself.”

Table 4.46: Meanings of "Eager to Soothe Hurt Feelings" by Gender types

Meanings	A	F	M	U
To talk to someone who is feeling bad	5	6	3	3.5
Don't like to see people hurt/being sympathetic	6	5	3	2.8
General desire to help people hurting to feel better	4	4	6	1.4
To remedy other's hurt caused by self	3	4	0	4.8
To take actions to relieve people's pain	2	5	1	2.1
To take the initiative to resolve an argument	3	3	0	2.8
To check and make sure people's feelings are not hurt	1	3	2	1.4
To encourage/point out the positive sides	2	4	0	1.4
To show support	1	3	4	0.0
To be affectionate to people hurting	2	2	1	0.7
Willing to apologize for one's wrongdoings	0	2	2	1.4
Willing to apologize for things said in anger	1	0	1	2.8
To go the extra mile to help people out	0	0	4	0.7
To hide one's true feelings/thoughts	1	0	1	2.1
Eager to help people solve problems/resolve conflicts	2	1	1	0.0
To make people hurting laugh	0	2	0	0.7
Keep people from being mad at oneself	1	1	0	1.4
Total	34	45	29	29.1

### Gentle

The Feminine participants quoted other items such as "Tender," "Warm," "Compassionate," "Understanding," and "Sympathetic" twice as often as the other groups as the meanings of "gentle." In addition, their meaning constructions also stood out in their preference to referencing these two properties: "to be responsive to people in need" and "to speak in a tactful manner." In contrast, the Masculine participants, similar to the U group, were more likely to view "gentle" as "to not hurt people's feelings." They also stood out in their incorporation of the property "to not rush/scare people." The frequency counts of the meanings constructed by gender type are provided in Table 4.47.

Table 4.47: Meanings of "Gentle" by Gender Types

	A	F	M	U
To not hurt people's feelings	4	3	6	5.5
To be kind, loving, and caring	4	6	5	3.5
Someone who's responsive to people in need	3	6	3	2.8
To be easy going	3	3	2	2.8
To speak in a tactful manner	2	4	1	2.8
The way you provide care for an infant	2	2	3	1.4
The affection/caring displayed to pet/animals	3	1	1	2.8
To handle things/objects carefully	1	1	2	2.8
To not rush/scare people	1	1	4	0.7
A soft physical touch	1	2	2	1.4
Someone who's weak/passive	2	2	1	0.0
To exhibit affectionate and caring behaviors towards others	2	2	1	0.0
To handle small/fragile animals with care	2	0	1	1.4
To prevent/protect people from being physically hurt	2	0	1	0.7
To speak in a soft tone	0	1	1	0.7
Somebody who's religious	0	1	0	0.0
Total	32	35	34	29.1

### Independent

As presented in Table 4.48, the F and M groups stood out in their tendency to define "independent" in terms of fulfilling one's daily needs and responsibilities. The F group generated the highest number of references. They also were more likely than the other groups to view independence financially and with regard to having the ability to perform, to get things done by oneself and/or without the input/help from others. The M group's interpretations were unique in their focus on self-care and having the "ability to lead others," at the same time tended not to consider "feeling comfortable with oneself or being one's own person" and "forming one's own opinion" as interpretations of the item. This was supported again when the examples of being independent were reviewed by gender types, not only that the M group provided more examples than other groups of "grocery shopping and preparing meals," but also with examples related to "taking care of pets/kids."



Table 4.48: Meanings of "Independent" by Gender Types

	A	F	M	U
Financially providing for oneself	5	7	5	4.2
Able to take care of one's daily needs and responsibilities	4	6	7	2.8
Ability to perform tasks/get things done by oneself	4	6	3	3.5
Able to form own opinions/conclusions and make own decisions	4	4	2	4.2
Able/prefer to spend time alone	4	3	3	2.8
Being one's own person/not worrying about what people think	3	2	1	4.2
Don't have to answer to people	2	1	2	2.8
Being one's own leader/resist peer pressure	1	0	2	1.4
Refuse help/input from others	0	2	0	1.4
Ability to start a new life in a new city/country	1	1	0	0.7
Ability to lead others	0	0	2	0.0
Making decisions with spouse without directions from others	0	1	0	0.0
Total	28	33	27	27.7

### Warm

As presented in Table 4.49, the total frequency counts are similar between the F and U groups, and between the A and M groups, but the distributions are different. The F group stood out in its high referencing of the property "being affectionate" and its low referencing of the properties "someone who makes people feel comfortable" or "being hospitable." They did not view warm as "someone people can count on," "someone who shows interests in a person," or "someone who enjoys people." The M group stood out in its high referencing of the properties "being sensitive and helpful to others' needs" and "someone who enjoys people." They did not consider "warm" at all as "being attentive." The A group was unique in not interpreting "warm" as "being affectionate physically."

Table 4.49: Meanings of "Warm" by Gender Types

Meanings	A	F	M	U
Being friendly and sociable	4	6	5	6.9
A nice and caring person	5	5	5	2.8
Someone who makes people feel comfortable	6	2	5	4.2
Someone who's open and easy to know	3	3	2	1.4
Someone who's happy/smiles a lot	3	2	2	1.4
Being affectionate (physically)	0	4	2	2.1
Being attentive	3	2	0	2.1
Not being judgmental	2	3	1	1.4
Someone who's pleasant to be around	3	1	0	2.8
Being sensitive and helpful to others' needs	1	1	4	0.7
Someone people can count on	3	0	2	1.4
Someone who shows interests in a person	2	0	1	2.1
Being hospitable	3	1	2	2.1
Someone who enjoys people	1	0	4	0.7
Someone interacts with people they just met	1	1	0	0.7
Being grandmotherly/maternal	0	0	0	0.7
Being generous	1	0	0	0.0
Being attached/making decisions based on emotions	0	1	0	0.0
Being physically comforting	0	0	1	0.0
Total	38	32	36	33.2

***Items with gender type group differences***

Items included in this category were those where some group differences in meaning constructions were observed or the four groups cannot be said to be constructing the same meanings. Instead of presenting numerical rules to explain group differences as viewed by the researcher, they are described literally. Readers may use his or her own judgment to agree or disagree with the researcher's view.

**Forceful**

The total frequency presented in Table 4.50 showed that the M group provided the highest number of meanings for the item, and the A group, the least. There appeared to be distinct interpretations made by each group. For instance, almost one third of the meanings constructed by the F group related "forceful" to "giving commands/orders" and

"imposing own opinions or beliefs onto others." They were also the most likely to interpret "forceful" as "imposing." The M group's meaning constructions were more heterogeneous and evenly distributed. They were unique in interpreting the item as "having no concerns for others' input or reactions" and "achieving goal via strategic persuasion." The A group differed in not interpreting "forceful" as "using arguments to persuade" or "using physical force against" other people. The Undifferentiated participants were the least likely to consider "forceful" as a personal characteristic or as "pushing one's way." In contrast, they were more likely than the other groups to view the item in terms of using physical force against people.

Table 4.50: Meanings of "Forceful" by Gender Types

	A	F	M	U
To command/to give orders	5	6	4	5.5
To insist on having one's way	3	4	4	4.8
To impose one's opinion/belief on others	2	6	4	3.5
As a personal characteristic	4	3	4	0.7
To use arguments to persuade others	0	2	4	3.5
To be outspoken of one's positions/ideas	2	3	3	2.1
To push one's way to others	3	3	3	1.4
To make people do things against their will	2	3	2	1.4
Having no concerns for others input/reaction	1	1	4	1.4
To use physical force against someone	0	1	2	3.5
To force people to do things for oneself	3	2	1	0.0
To manipulate to have one's way	1	1	1	1.4
To communicate with anger	1	0	2	0.7
To use other means to make people listen	1	2	0	0.7
To achieve one's goal via strategic persuasion	0	0	4	0.0
To pursue one's goal/to overcome resistance	2	0	1	0.7
To act with physical strength	1	0	0	1.4
To rough house	0	1	1	0.7
To be self-determined/disciplined	0	1	0	0.0
Total	31	39	45	39.5

Has leadership abilities

As reflected in Table 4.51, the total frequency counts of the A and the M groups are noticeably higher than those of the F and U groups. Despite similar total frequency counts, the Androgynous and the Masculine were noticeably different in their meaning constructions. For instance, the tendency for the Androgynous to view "leadership abilities" as "being creative," "having good people management skills," "having ability to motivate people," "capable and willing to take responsibilities," "involving people in generating/improving ideas" was not shared by the Masculine participants. The latter, instead, stood out with their focus on the "overseeing project," "setting directions," "telling people what to do," and "teaching people." The F group was more similar to the

Table 4.51: Meanings of "Has leadership abilities" by Gender Types

	A	F	M	U
Good communication skills	7	5	5	3.5
To oversee a group of people and activities	3	2	6	4.8
To make decisions	3	4	4	2.8
To set directions	1	2	5	4.2
To be creative	5	4	1	2.1
To have organizational skills	2	3	4	2.1
To be knowledgeable	2	3	3	2.1
To have good people skills	3	3	3	1.4
To have good people management skills	6	1	3	0.7
To tell people what to do	1	4	4	1.4
To correct people's mistakes	3	2	3	2.1
To have the intellectual/analytical ability	3	3	2	1.4
To be able to motivate people	5	1	2	1.4
To be able and willing to take responsibilities	4	1	1	1.4
To have good work habits	2	2	2	1.4
To teach people	0	1	4	1.4
To look out for the group	1	0	2	1.4
To involve people to generate/improve ideas	3	0	0	0.0
To have time management skills	0	0	0	1.4
To help people grow	0	1	0	0.7
Total	54	42	54	37.4

A group in not seeing leadership abilities as overseeing project/people/activities, or setting directions. The U group was more similar to the M group in their interpretations but was unique in not considering having good people skills as a leadership ability.

Sensitive to the needs of others

As the total frequency counts in Table 4.52 indicate, the M group incorporated the least number of the properties in their constructions. Their interpretations were quite different from those made by the F group. Unlike the other groups, they were not inclined to interpret the item as "putting others before self," but considered it as "to feel for people" instead. The interpretations of the F group were relatively evenly distributed among the first seven categories. The interpretations of the U group appeared to be more simplistic, with a focus on the first three properties.

Table 4.52: Meanings of "Sensitive to the needs of others" by Gender Types

	A	F	M	U
To help people with their problems/needs	4	4	5	6.2
To be aware of (to recognize) what people need	3	3	2	4.8
To put others before self	2	5	1	4.2
To be considerate/to consider other's needs as important	4	3	2	2.1
To watch one's actions/words to not hurt/offend people	5	3	1	0.7
To consider peoples' feelings important	1	3	1	2.1
To be aware of peoples' feelings	1	3	0	1.4
To take others into considerations when making decisions/plans	1	2	1	0.7
To be aware of what's important to people	2	0	0	0.7
To feel for people	0	0	3	0.0
To be kind to people in distress	2	0	1	0.0
To put oneself in the situation and think about how one would like to be treated	1	0	1	0.0
To give people space/to not intrude	1	0	0	0.0
To help those one cared about	0	1	0	0.0
To take offense at the request made by others	0	0	1	0.0
Total	27	27	19	23.0

### Strong personality

As indicated in Table 4.53, the U group constructed the most meanings for this item. Their interpretation of "strong personality" as "being overbearing" was noticeably different from the other groups. The M group's meaning constructions tended to cluster around the personality characteristics such as "assertive," "socially desirable," and "non-conforming." In contrast, the F group was the least likely to view "strong personality" as having socially desirable characteristics. None of the Feminine participants incorporated "personality coming through" as an aspect of the meaning, and they were almost exclusively the only ones who considered "inner strengths" an aspect of the meaning of the item.

Table 4.53: Meanings of "Strong personality" by Gender Types

	A	F	M	U
Being assertive	6	5	5	4.8
Having socially desirable characteristics	4	3	6	5.5
Non-conforming	4	5	5	3.5
Being overbearing	3	3	2	6.9
Drawing attention from others	4	5	3	4.2
Taking charge	2	3	2	4.2
Personality coming through to others	4	0	3	4.2
Being stubborn	4	2	2	2.1
Having characteristic(s) that is easily identifiable	1	0	2	1.4
Having the strength to handle hardship in one's life	1	2	0	0.0
Mature person	0	2	0	0.7
Wise person	0	1	0	0.0
Willing to be the center of attention	0	1	0	0.0
Total	33	32	30	38.1

### Understanding

It is interesting to find that the A and the M group constructed significantly more meanings than the other two groups. Their interpretations of the item were similar and diverse, to have included both cognitive and psychological properties. The M group stood out in their tendency not to share the meaning as "being nice when people messed up,"

which, in sharp contrast, was the most frequently constructed meaning by both the F and the U groups. The Feminine participants seemed to be unique in that they were less likely to view "understanding" as having knowledge to understand something. The A group was unique in interpreting the item as "to know a person well."

Table 4.54: Meanings of "Understanding" by Gender Types

	A	F	M	U
To listen to understand people	6	4	7	4.2
To be nice about it when people messed up	6	5	2	4.8
To understand where people are coming from	5	2	5	4.2
To know how/why people feel in a situation	4	4	5	3.5
To be sympathetic when people are upset	4	4	4	2.8
To see things from other's perspectives	4	5	3	2.1
To care about people	3	3	3	3.5
To be flexible	2	4	2	4.2
To be considerate	4	2	2	3.5
To be able to relate to a situation or people	3	0	3	1.4
To know how the world and people work	3	1	3	0.7
To know what people are going through	1	0	3	2.1
To know how things work	2	0	2	2.1
To have sufficient information	1	2	3	0.0
To know a person well	3	0	1	0.0
To be knowledgeable about the surroundings	0	0	0	0.7
Total	51	36	48	39.5

#### Willing to take a stand

In general, the meaning constructions were more similar between the A and the M groups. The F group stood out in several ways. Unlike the other groups, they tended not to view taking a stand as taking risks. At the same time, the properties "to take up/speak up for others" and "to take immediate actions to correct a wrong" were frequently cited as meanings for the item by the F group, but rarely by others. "To confront and resolve conflicts" and "to physically fight/die for one's beliefs" were almost exclusively constructed by the F group. In contrast, "risking offending others to correct their

behavior" was almost exclusively interpreted as meaning the willingness to take a stand by the A and the M groups.

Table 4.55: Meanings of "Willing to take a stand" by Gender Types

	A	F	M	U
Willing to express one's position/beliefs/opinions	6	4	6	6.2
Willing to argue for one's beliefs/values/positions	7	6	4	4.8
Risking hurting oneself to speak up/to not comply	4	1	4	3.5
To speak up for self protection	3	4	4	2.1
To take up/speak up for others	2	5	1	3.5
To not conform	2	3	3	1.4
To take side of an issue and act upon it	2	3	2	2.1
To take immediate actions to correct a wrong	0	4	1	1.4
Risking offending others to correct their behavior	3	0	2	0.7
To take up for others at own cost	1	1	0	2.1
To participate in a debate/argument	2	1	0	0.7
To confront a conflict to resolve it	0	2	0	0.7
A leadership quality	2	0	1	0.0
To demand others behave a certain way	1	1	0	0.7
To physically fight/die for one's beliefs	0	2	0	0.7
An activist/social movement worker	0	0	1	0.7
Total	35	37	29	31.2

***Items with small group differences***

There were small group differences in meaning constructions for items "Assertive," "Defends own beliefs," "Dominant," "Loves children," "Sympathetic" and "Willing to take risks." Some of the differences are important nonetheless. For instance, the F group tended to construct the meaning of "assertive" in the context of self protection, and they are not likely to "defend own beliefs" at the risk of hurting self; the M group was the least likely to cite "defend religious beliefs," and they were not afraid of alienating people when defending their beliefs; they also viewed "dominant" more as giving orders; the A group uniquely interpreted "loving children" as teaching children and helping them grow, and "willing to take risks" as "willing to do things despite potentially negative consequences" and "being different from the norm."



## **2. Do life experiences play a role in participants' item interpretation?**

To address this question, meanings constructed by the undergraduate student participants were compared to those constructed by the working adult participants. The comparisons indicated that, despite some shared interpretations, there were quite noticeable differences between the two groups. Those items with the largest group differences, using the same criteria described previously, will be presented first, followed by those with moderate group differences. Items with minimal group differences will only be described briefly.

### ***Items with notable differences between the student and working adult groups***

#### **Affectionate**

Although the two groups were similar in their core interpretations of the item, there were unique features in each group. As the frequency counts in Table 4.56 indicated, near one third of the adult group interpreted “affectionate” as physically displaying affection. They also constructed more unique meanings. The student participants generated more meanings and they were more evenly distributed. Their meaning constructions stood out in that 40% of the students used the acronym “PDA” (i.e., public display of affection) to construct the meaning of the item. They also outnumbered the adult group in considering “verbal display of affection” and “displaying affection toward one's romantic partner” as meanings of the item. The meaning “being open or personal to someone” was exclusively constructed by the student group.

Table 4.56: Meanings of "Affectionate" by Student-Adult Groups

	Student	Adult
Show affection through physical contact/touchy-feely	12	17
Being caring/loving/warm/compassionate/nice to others	8	7
Able/willing to show one's emotions/feelings	5	7
Display affection verbally	8	3
Being friendly through physical touch or words	4	6
Display of affection towards one's romantic partner	7	3
Public display of affection	8	1
Show affection physically/verbally to pets/animals	3	4
To take care of problems/needs for someone	3	2
Being open/personal to someone	4	0
Being warm/nurturing/nourishing/loving to one's children	0	1
Show one's sentiment/being lovey-dovey	0	1
Acknowledge/appreciate what others did for you	0	1
Total	62	53

### Aggressive

The working adult group's meaning constructions of this item appeared to be more distinctive and complex, as reflected by their consideration of different types of aggressiveness (e.g., social, physical, personality) in different contexts (e.g., personal, work). The students' interpretations appeared to be more simplistic and conventional, as reflected by their frequent referencing of physical fights, "hitting on girls," or the way they play sports.

This observation is reflected in the frequency counts in Table 4.57. Although the two groups generated similar numbers of meanings, the distributions are quite different. For instance, the most common interpretations within the student group were "someone who's determined to go after what s/he wants," "someone who resorts to physical force/violence," and "to play sports competitively," whereas the most constructed meaning amongst the adults was "someone who pushes others to go along with own beliefs/wants." There were no working adults who interpreted "aggressive" as playing

sports competitively. The student group was also more inclined to interpret the term as "someone who's too emotional to stay calm," and "to initiate actions to pursue or protect a romantic partner," whereas the working adult group was unique in their wider perspective on what "aggressive" means to them, such as "someone who's feisty, combative, verbally abusive," "someone who is harsh to people," "someone who is competitive," "someone who is energetic and highly motivated," "someone who cuts people off in traffic" and "some one who intrudes/invades."

Table 4.57: Meanings of "Aggressive" by Student-Adult Groups

	Student	Adult
Someone who's determined to go after what he wants	13	7
Someone who pushes others to go along with own beliefs/wants	6	10
Someone who resorts to physical force/violence	9	5
Someone who's feisty/combative/verbally abusive	3	7
To push people out of the way/step on people to reach one's goal	4	6
To play sports competitively	9	0
Someone who likes to have their way	3	6
Someone who's too emotional to stay calm	6	2
Someone who's harsh to people	2	5
To defend one's beliefs/ideas/entitlement	4	3
To initiate actions to pursue/protect a romantic partner	5	1
To pursue one's interests in an offensive way	2	4
Someone who's socially confident	2	2
Someone who's competitive	1	3
Someone who's energetic and highly motivated	1	3
To cut people off in traffic	0	3
Someone who takes chances to get what s/he wants	2	1
Someone who intrudes or invades	0	3
Someone who will take actions in a situation	1	1
Someone has a lot of physical strength	1	0
Someone who's mentally strong	1	0
Total	76	72

#### Compassionate

The working adult group's meaning constructions appeared to be more accurate (according to the dictionary definitions) and sophisticated, as reflected by their explicit or

implicit focus on the suffering and the well-being of others, and to feel or act on it. The students' interpretations appeared to be more simplistic and less accurate, as a few of them mistook the item to be synonymous with the word "passionate." This contrast is apparent when the frequency counts of the two groups presented in Table 4.58 are compared: The most common interpretation of "compassionate" by the student group was "to do a good deed." They also viewed the item to mean "expressing affection or love to others physically or behaviorally" and "having intense interests or feelings toward things," which were not shared by the adult group. Unlike the student group, the most common meanings constructed by the adult participants were "to feel bad for the misfortune experienced by people or animals" and "to understand people's mistakes and to help/comfort/forgive." These meanings were followed closely by "to do good deeds," "to feel for people and to be supportive," and "to be empathetic." "Forgiving people's mistakes" only surfaced in the working adult group's meanings constructions.

Table 4.58 : Meanings of "Compassionate" by Student-Adult Groups

	Student	Adult
To do good deeds	11	6
To feel bad for the misfortune experienced by people or animals	4	7
Being loving/caring/warm/understanding	6	4
To understand the situation and to take actions	5	2
To feel for people and to be supportive	2	5
To understand people's mistakes and to help/comfort/forgive	0	7
To be empathetic	1	5
To express affection or love to others physically or behaviorally	5	0
To show sorrow & sadness to others' misfortunes	2	2
To understand and relate to others' pain on an emotional level	3	1
Intense interests in/feelings towards things	4	0
To have a lot of feelings for someone you like	1	0
<b>Total</b>	<b>44</b>	<b>39</b>

## Dominant

As reflected in Table 4.59, the most common interpretation of “dominant” in the adult group was "to have one's way," as opposed to “to take control of a group or situation” in the student group; only half as many adults viewed “taking control of a group or situation” as a meaning of “dominant.” "To be in charge of children" and “to

Table 4.59: Meanings of "Dominant" by Student-Adult Groups

	Student	Adult
To have one's way	8	13
To be the one in control in a relationship	8	8
To take control of a group/situation	10	5
To tell people what to do/give orders	8	6
Someone people follow	4	5
To take the lead	4	5
To act superior to others	5	3
To be in a position with power over others	3	5
To be in charge of children	0	6
To take over a conversation	5	1
To be outspoken	5	1
To be physically strong	1	2
To push people to get things done	0	3
To win in sports	2	0
To manipulate to get what one wants	0	2
Someone you notice in a group	1	1
To have control over animals/environment	0	1
Total	64	67

push people to get things done” were exclusively constructed by the adult participants, whereas "to take over a conversation,” and “to be outspoken” were almost exclusively constructed by the student participants. In terms of the context of being dominant, students gave more examples related to romantic relationships, social outings with friends, and sports. In contrast, adult group gave more examples related to adult-child and supervisor-subordinate relationships, and family situations.

## Forceful

Despite their lower mean self-ratings, the student participants generated more meanings than the adult group. The students' interpretations stood out in two ways: They were more likely to situate the meanings of “forceful” in interpersonal interactions, such as being "pushy," "to make people do things against their will," or to have no concerns for others' input or reaction." They were also more likely to interpret “forceful” in a physical sense, such as “to use physical force against others,” ”to act with physical force,” or “to rough house." In comparison, the adult group's meaning constructions appeared to be more self-focused, as reflected by constructions such as "to overcome resistance/barriers set up by others," "to use arguments to persuade," and "to be outspoken of one's positions/ideas" (Table 4.60).

Table 4.60: Meanings of "Forceful" by Student-Adult Groups

	Student	Adult
To command/to give orders	10	13
To insist on doing things one's way	10	8
To impose one's opinion/belief on others	9	8
A pushy/demanding/strong willed person	9	3
To use arguments to persuade others	4	7
To be outspoken of one's positions/ideas	4	7
To be persistent with one's request	7	4
To make people do things against their will	9	0
Having no concerns for others input/reaction	6	2
To use physical force against someone	5	3
To force people to do things for oneself	2	4
To manipulate to have one's way	3	2
To communicate with anger	3	1
To use physical means to make people listen - to interrupt/talk loud)	2	2
To achieve one's goal via strategic persuasion	2	2
To overcome resistance/barriers set up by others	0	4
To act with physical strength	2	1
To rough house	2	1
To be self-determined/disciplined	0	1
Total	89	73

## Gentle

For this item, the working adult participants provided more meanings than the student participants (Table 4.61). Their meanings also covered a wider range. For instance, the adult participants quoted more frequently other Feminine subscale such as "Tender," "Warm," and "Understanding," they also included "Compassionate" and "Sympathetic," which were not named by any of the student participants. Additionally, the adult group stood out in their interpretation of "gentle" as someone who is easy going, laidback, or non-threatening. They were also more likely to consider meanings such as "to exhibit affectionate and caring behaviors towards others," "to handle small/fragile animals with care" and "to not rush/scare people." Only working adult participants interpreted "gentle" as "to prevent people from being hurt physically." Unlike the wide range of constructions observed in the adult group, the meanings constructed by the student participants appeared to be more homogeneous, with a concentration on "not hurting people's feelings" and "being kind, loving and caring." They were also more likely to refer to caring for babies and affection toward animals as being gentle. The student group stood out in their view of "gentle" as "a soft physical touch."

Table 4.61: Meanings of "Gentle" by Student-Adult Groups

	Student	Adult
To not hurt people's feelings	9	12
To be kind, loving, and caring	9	11
Someone who's responsive to people in need	7	9
To be easy going	1	11
To speak in a tactful manner	6	5
The way you provide care for an infant	7	2
The affection/caring displayed to pet/animals	6	3
To handle things/objects carefully	5	3
To not rush/scare people	2	5
A soft physical touch	6	1
Someone who's weak/passive	3	2
To exhibit affectionate and caring behaviors towards others	1	4
To handle small/fragile animals with care	1	4
To prevent/protect people from being physically hurt	0	4
To speak in a soft tone	2	1
To be religious	0	1
Total	65	78

Has leadership abilities

Relative to the adult group, the student participants appeared to be more expansive with their construction, as indicated by their more explicit and detailed descriptions of leadership abilities. The student group was also more inclined to view a leader as a psychologically strong person who is assertive and can take pressure. In contrast, the adults' interpretations tended to include the humane side of a leader, with less emphasis on the “strong” aspects of the qualities observed in the students' constructions.

As reflected by the frequency counts in Table 4.62, the student group stood out in their meaning constructions of the item in that they constructed many more meanings than the adult group. There were five meanings that were almost exclusively given by the student participants: "to correct other's mistakes," "willing to take responsibilities for the



group," "to have good work habits," "to look out for the group," and "to involve people to generate/improve ideas." The two groups also differed in their choices of the

Table 4.62: Meanings of "Has Leadership Abilities" by Student-Adult Groups

	Student	Adult
Strong/assertive/can take pressure	11	6
Understanding/compassionate	0	3
Confident	1	2
Charismatic	1	1
Likes to be involved in activities	0	2
Credible/reliable	1	1
Effective	0	1
<b>Total</b>	<b>14</b>	<b>16</b>
To have good communication skills	12	10
Ability to oversee a group of people and activities	11	7
To make decisions	8	7
To set directions	6	8
To be creative	6	7
To have organizational skills	7	5
To be knowledgeable	4	7
To have good people skills	6	5
To have good people management skills	5	6
To tell people what to do	7	4
To correct people's mistakes	10	1
To have the intellectual/analytical ability	4	6
To be able to motivate people	6	4
To be able and willing to take responsibilities	7	1
To have good work habits	6	2
To teach people	3	4
To look out for the group	5	0
To involve people to generate/improve ideas	3	0
To have time management skills	2	0
To help people grow	0	2
<b>Total</b>	<b>118</b>	<b>86</b>

personal characteristics of a leader. The student group appeared to associate leaders with strong personalities, and the adult group seemed to also appreciate other characteristics (compassionate, confident, charismatic, etc.).

The group differences were also noticeable when the context of the leadership abilities was analyzed. The students more often situated the meanings of leadership in the

context of student organizations, school projects, and sports. In contrast, adults tended to refer to work, political, and various non-school related situations.

### Loves children

There were many ways the adult participants interpreted "loves children" that were different from the student participants. The adult group generated more meanings. There was also a stronger sense of caring, nurturing, protection, and appreciation in their constructions, as opposed to a sense of enjoyment in students'. As indicated in Table 4.63, the adult group was much more likely than the student group to interpret "loves children" as "to take care of and nurture children," "to appreciate the psychological qualities of children," "to be patient and tolerant of children," "to protect the wellbeing of children," and "to enjoy the physical characteristics of children." The last two meanings were exclusively constructed by the adult group. On the other hand, majority of the student participants viewed "loving children" as "enjoy being around them," they were also more likely to interpret the item as "enjoy working with children." Only the student group considered "wanting to have own children" as meaning of the item. The two groups also differed their interpretations of "children," there were twice as many adults who viewed "children" as "any children" and "own children" than the student participants. The group differences were also reflected in the reasons given for loving children. For instance, only the student group quoted "children appreciate you" as a reason for loving them, while only the adult group quoted "learning from children" and "children are curious and imaginative" as reasons. It was also interesting to note that the student group was much more likely, in their meaning construction process, to consider factors like "children are messy, annoying," and "a person has to sacrifice own life for them."

Table 4.63: Meanings of "Loves Children" by Student-Adult Groups

	Student	Adult
Enjoy being around children	16	13
To take care of and nurture children	6	10
Appreciate the psychological qualities of children	3	10
To be patient/tolerant of children	4	9
Enjoy working with children	7	4
To care about children's feelings	4	5
To make children happy	3	4
To want to have own children	7	0
To protect the wellbeing of children	0	5
To spoil children	2	3
Enjoys teaching children and helping them grow	3	2
Enjoy the physical characteristics of children	0	4
The affection parents have for their own children	1	3
To hug and kiss children	1	2
To display one's love for children publicly	1	1
Total	58	75

#### Strong personality

The two groups were quite different in how they interpreted the item. There appeared to be an element of "maturity" incorporated in the adult group's meaning constructions, as reflected by the presence of descriptors such as "knowing oneself," "having the strength to get through the hard times," "stable," and "don't feel the need to impress." The socially desirable characteristics, on the other hand, appeared to be an important property in the student participants' constructions, as indicated by the prevalence of descriptors such as "outgoing," "funny," "talkative." The group differences are readily noticeable in Table 4.64 , as reflected by the contrast of the frequency counts between the two groups, which were noticeable in all but four of the meanings. In other words, what the student group was inclined to interpret as the meaning of "strong personality" was not the focus of the adults, and vice versa. For instance, members of the student group were more likely to consider "strong personality" as "having socially desirable characteristics," "non-conforming," "drawing attention," and "letting one's

personality come through,” while the adult participants were more likely to consider “being overbearing,” and “taking charge” as meanings. Additionally, only adults referred to psychological strength, such as “having the strength to handle hardship in life” and “a mature person,” as meanings of “strong personality.”

Table 4.64: Meanings of "Strong personality" by Student-Adult Groups

	Student	Adult
Being assertive/speaking out/will defend oneself	12	11
Having socially desirable characteristics	13	8
Non-conforming	12	7
Being overbearing	7	11
Drawing attention from others	12	6
Taking charge/to lead	4	9
Personality coming through to others	9	4
Being stubborn	4	7
Having characteristic(s) that is easily identifiable by others	2	3
Having the strength to handle hardship in one's life	0	3
Mature person	0	3
Wise person	1	1
Willing to be the center of attention	0	1
Total	76	74

### Understanding

The adult group's meaning constructions appeared to be more comprehensive, as reflected by the observation that almost every adult participant generated multiple interpretations. The students' interpretations appeared to be more simplistic and conventional, as reflected by the frequent referencing of sympathy and relating to people's feelings or negative emotions. This observation was repeated when the reasons for being understanding were analyzed, while the students quoted "having being through it oneself" and "cared about people" as the two major reasons, the adults provided additional authentic reasons such as "open-mindedness," "interested in knowing more about people," "curious personality," "forgiving nature," etc..

The uniqueness of each group’s meaning constructions are readily noticeable in Table 4.65. Despite the similar total number of meanings generated by the two groups, the frequency distributions are quite different. “To be sympathetic when people are upset” and “to know how/why people feel in a situation” were stated more frequently by the student group. “To be able to relate to a situation or people” was almost exclusively constructed by the student participants. In contrast, "to know why people think in a situation" was preferred by the adult group, "to know how things work," and "to have sufficient information" were almost exclusively cited by the adult participants.

Table 4.65: Meanings of "Understanding" by Student-Adult Groups

	Student	Adult
To listen to know what people are saying/thinking	13	10
To be nice about it when people messed up	9	11
To know why people think a certain way in a situation	6	12
To know how/why people feel in a situation	11	7
To be sympathetic when people are upset	11	5
To set aside own view/feelings	9	6
To care about people	7	7
To be flexible	6	8
To be considerate/to accommodate	8	5
To be able to relate to a situation or people	7	1
To know how the world and people work	3	5
To know what people are going through	4	3
To know how things work	1	6
To have sufficient information	0	6
To know a person well	2	2
To be knowledgeable about the surroundings	0	1
Total	97	95

#### Willing to take risks

The adult and the student groups differed in several ways. The student participants constructed many more meanings, more than one third of which are related to "participating in extreme sports" or "willing to do something despite the potentially negative outcomes," or "to be different/to not follow convention." The first two were

much less chosen by the adult group, as reflected in Table 4.66. The personal characteristic properties were also referenced almost exclusively by the student participants. In contrast, the adult group seemed to be more inclined to interpret the item as “willing to do things because of the attractive payoff.” They also made more unique constructions such as “to perform a good deed that may harm oneself,” “willing to do something potentially harmful out of necessity,” and “to do something when the chance of succeeding is considered good.”

Table 4.66: Meanings of "Willing to Take Risks" by Student-Adult Groups

	Student	Adult
To participate physical activities that create adrenaline rush	13	8
Willing to do something despite the potentially negative outcome	12	4
Not cautious/not concerned with outcomes	10	9
Wanting to try something new to have a good time	7	5
Willing to do things that may fail but the personal payoff is good	3	8
To be different/to not follow convention	6	2
To sacrifice the stability and security for a potentially better future	2	2
Willing to perform a good deed that may harm oneself	1	3
Willing to not follow the regulations out of necessity	0	2
Willing to do something when the chance of succeeding is good	0	2
Willing to respond to the "dares" challenged by peers	1	0
Personal characteristic - not conservative	7	1
Personal characteristic - not fearful	6	1
Personal characteristic - to be adventurous	1	1
Total	69	48

The group differences were also noticeable in the contexts in which meanings were constructed (Table 4.67). The adults’ interpretations were more likely to be situated in one’s financial situations and personal relationships. They were also the only ones who considered taking a chance on other people (e.g., strangers) as taking risks. There were no adults who considered the meaning of “willing to take risks” in the context of gambling, as noted in the student group. One adult expressed confusion about the meaning of the item because it could refer to so many different things.

Table 4.67: Context of "Willing to take risks" by Student-Adult Groups

	Total	Student	Adult
<b>Context of taking risks</b>			
Physical activities that create adrenaline rush	21	13	8
Financial	18	6	12
Gambling	6	6	0
Physical injury to self/health related	13	8	5
Relationships	12	4	8
Moving away from hometown	10	4	6
Career/job related	8	3	5
School related	8	8	0
Legal/regulations/policies	8	5	3
Social	5	2	3
Friendship	4	2	2
Work	3	0	3
Personal	2	0	2
Daily routine type of risks	2	2	0
To take a chance on other people	2	0	2
Total	122	63	59

Willing to take a stand

The group differences are quite noticeable. The adult participants' meaning constructions, relative to those of students, tended to be more confrontational, more willing to risk negative consequences, more action oriented, and more altruistic. This is reflected by the frequency counts in Table 4.68, where the adult group was much more likely than the student group to interpret "willing to take a stand" as "willing to argue for one's beliefs/values/positions," "risking hurting self to speak up/to not comply," "to take side of an issue and act upon it," and "to take up for others at own cost." In contrast, the two most common interpretations made by the student group were "willing to express one's position/beliefs/opinions" and "to speak up to protect self interests or rights." When the context of the participants' constructions were analyzed, it was clear that the adults were more focused on personal positions on political, moral, or religious issues, on

correcting a wrong or protecting others, whereas the students' constructions tended to take place in social interactions or classroom discussions.

Table 4.68: Meaning of "Willing to Take a Stand" by Student-Adult Groups

	Student	Adult
Willing to express one's position/beliefs/opinions	11	14
Willing to argue for one's beliefs/values/positions	8	16
Risking hurting oneself to speak up/to not comply	5	9
To speak up for self protection	11	3
To take up/speak up for others	7	6
To not conform	6	4
To take side of an issue and act upon it	3	7
To take immediate actions to correct a wrong	3	4
Risking offending others to correct their behavior	4	2
To take up for others at own cost	1	4
To participate in a debate/argument	1	3
To confront a conflict to resolve it	2	1
A leadership quality	2	1
To demand others behave a certain way	3	0
To physically fight/die for one's beliefs	0	3
An activist/social movement worker	2	0
<b>Total</b>	<b>69</b>	<b>77</b>
<b>Context of interpretations</b>		
Positions on political/moral/religious issues	8	15
During project/group meetings	2	6
Interactions with authority	4	4
Correcting the behaviors of strangers (not friends)	3	3
Interactions among family members	2	3
Classroom discussions	5	0
Interactions among friends	1	2
Interactions between spouses/boy-girlfriends	3	0
To correct friends' behavior	2	0
When facing conflicts	2	0

***Items with moderate differences between the student and adult groups***

Defends own beliefs

As reflected in Table 4.69, the two groups shared the meanings of the item as "speaking against others" or "speaking up at a risk." On the one hand, the adult group seemed to be more inclined to include also the mere expression of one's view point as



another meaning. They also viewed "providing rationale behind one's position" as defending beliefs. On the other hand, there were more student participants who included "taking actions" or "being stubborn/not easily persuaded" as ways of defending beliefs.

Table 4.69: Meanings of "Defends Own Beliefs" by Student-Adult Groups

	Student	Adult
Speaking against others	18	19
Speaking up at a risk	9	10
Willing to express one's viewpoint	7	11
To provide the rationale behind one's view/position	4	11
Defending one's belief through actions	8	3
Being stubborn/not easily persuaded/swayed	6	3
To convince others that one's belief is right	3	5
To protect one's rights/interests	3	5
Thinking highly of one's views and being vocal about them	1	2
Total	59	69

#### Eager to soothe hurt feelings

The student group generated more meanings. Relative to the adult group, the student participants' meaning constructions appeared to be more simplistic, as they tended to interpret the item with a focus on the intent or desire of a person to attend to the sad, depressed, or upset emotions of others. When they did incorporate "actions" into the meanings, they also tended to be simpler ways of mending those feelings of others, such as to show affection, to show support or to apologize. In contrast, the adult participants' meaning constructions considered a wider range of activities, such as "to hide the truth," "to solve problems," or "to resolve conflicts among people" as ways to soothe hurt feelings. Additionally, as indicated in Table 4.70, there were two meanings that were almost exclusively constructed by the students: "to be affectionate to people hurting," and "to go the extra mile to help people out." In contrast, "to hide one's true feelings/thoughts" and "eager to help people solve problems/conflicts" were almost exclusively constructed by the adult participants.

Table 4.70: Meanings of "Eager to Soothe Hurt Feelings" by Student-Adult Groups

	Student	Adult
To talk to someone who is feeling bad	8	11
Don't like to see people hurt/being sympathetic	10	8
General desire to help people hurting to feel better	10	6
To remedy other's hurt caused by self	7	7
To take actions to relieve people's pain	7	4
To take the initiative to resolve an argument	4	6
To check and make sure people's feelings are not hurt	5	3
To encourage/point out the positive sides	5	3
To show support	4	4
To be affectionate to people hurting	5	1
Willing to apologize for one's wrongdoings	4	2
Willing to apologize for things said in anger	4	2
To go the extra mile to help people out	4	1
To hide one's true feelings/thoughts	1	4
Eager to help people solve problems/resolve conflicts	1	3
To make people hurting laugh	1	2
Keep people from being mad at oneself	2	1
Total	82	68

***Items with very small differences between the student and adult groups***

Items in this category are those where only minimal group differences can be found among the overall shared meaning constructions. These differences though small, included the following: for instance, for the item "assertive," half of the adult group included "perceived or potential resistance" in their meaning constructions as opposed to 4 in the student group. There were also more adults (7) who viewed "assertive" as "requesting actions from others to protect self interests/rights" than the student group (2). "Independent" was interpreted more, by the adult group, as having the ability to get things done, form own opinions/conclusions or make decisions by oneself, and more, by the student group, as a psychological maturity. "Sensitive to the needs of others" was considered more by the adult group as having the awareness of people's needs or the ability to read them. "Sympathetic" was uniquely constructed by the student group as "to forgive/to give people a second chance." For the item "tender," the adult group was more

likely to include the physical element in their meaning construction, such as "the physical display of love or sympathy," "speaking in a soothing manner," whereas more student participants interpreted the item to mean "someone who gets hurt easily." More students viewed "warm" as a personal characteristic, such as being nice, caring, affectionate, attentive, or "someone who smiles a lot."

### **3. Do the BSRI item characteristics (i.e., "masculine" vs. feminine items) play a role in participants' item interpretation?**

As described in Chapter 1, BSRI items were selected based on their desirability for a man (or a woman) in American society: Masculinity subscale items were selected because they were judged/rated by two samples of undergraduate male and female students to be significantly more desirable for a man in American society than for a woman; Femininity subscale items were similarly selected for their desirability for a woman. Involvement of the male and female American students in the generation of the items and subsequently in the selection of the final list were the foundation of Bem's contention (1993) that BSRI was constructed by "native informants," and that the two subscales measure masculinity and femininity as American society defines them. Based on Bem's assertion, the current study explored whether and how the socially shared sex-related desirable characteristics embedded in each subscale played a role in participants' meaning constructions of the items. Specifically, the current study looks into whether participants' interpretations of the subscale items reflect societal establishment, or their meanings are, at least in some way, associated with the corresponding sex.

The most direct approach to address this research question is to examine participants' interpretations of each item in reference to sex related desirability, appropriateness, or simply associations. Four items from the "Femininity" subscale were

observed to contain such remarks. They were all made by undergraduate student participants.

Gentle. Three undergraduate participants stated that the item "Gentle" is not a masculine word: One "Undifferentiated" male participant remarked that the term has a negative connotation when applied to a male. One "Masculine" female participant stated that she would never "use the item on men." One "Undifferentiated" male participant commented that he viewed the item more masculine than "Warm" and "Tender" and consequently, would apply the item to himself.

Tender. Six undergraduate participants made an explicit statement relating the item to the female sex or to being maternal: One "Undifferentiated" male participant and two female participants (one "Masculine" one "Feminine") stated that "tender" is "being maternal" or "like being a mother;" one "Androgynous" female participant said women are tender; one "Androgynous" male and one "Undifferentiated" female participant stated that men are not tender. Additionally, participants used 12 females, versus six males, as examples of tender people; and 9 males, versus one female, as examples of not tender people.

Understanding. One "Undifferentiated" male remarked that mostly women are "understanding" (i.e., supportive and forgiving).

Warm. One "Undifferentiated" male participant stated the item is a "maternal thing ... not a masculine adjective."

In contrast, participants did not make any sex related remarks in their interpretations of the Masculine subscale items. What was unique, instead, is that there were three items from the Masculine subscale that were considered by quite a few participants as undesirable or potentially undesirable, regardless of sex. This is unusual because evaluation of items were quite rare, such as one participant commented

"Assertive" can be good; two viewed "Compassionate" as a good quality, one stated "Warm" is a positive characteristic.

Dominant. Six participants stated that the item has a negative connotation; three of them further clarified that "being dominant" can be undesirable. These participants consisted of three undergraduate students and three adults, three females and three males, three "Undifferentiated," one "Androgynous," one "Masculine," and one "Feminine."

Forceful. Five participants explicitly stated that the item carried a negative connotation. They consisted of three undergraduate students - one "Feminine" female, one "Androgynous" female and one "Undifferentiated" male, and two adults - one "Masculine" male and one "Undifferentiated" male. Three participants (one undergraduate, "Undifferentiated" female, one adult "Androgynous" male, one adult "Undifferentiated" male) remarked "Forceful" can be negative or undesirable. There were also four participants (two undergraduate and two adult females of four different gender types) who did not overtly evaluate the item but used negative descriptors such as "pushy," "demanding," "force people to do things they don't want to do," "mean," etc.

Aggressive. Close to half of the participants (n = 17) considered the item undesirable or potentially negative. Eleven participants explicitly stated that the item carried a negative connotation. Among them, five also said being aggressive can be a good thing. Six additional participants implied a negative connotation by using descriptors such as "pushy and mean," "violent," "offensive," "self-centered," "instigating or causing conflicts." The types of participants are presented in Table 4.71. It is interesting to note that among undergraduate participants who evaluated the item negatively, seven out of eight were females. This is not observed among the adult participants.

Table 4.71: Negative Evaluation of "Aggressive" by Types of Participants

	Total	Student		Adult	
		Female	Male	Female	Male
Androgynous	4	2	--	1	1
Feminine	5	4	--	1	--
Masculine	2	--	--	--	2
Undifferentiated	6	1	1	3	1
		7	1	5	4
<b>Total</b>	<b>17</b>	<b>8</b>		<b>9</b>	

Five Feminine subscale items (Compassionate, Gentle, Sympathetic, Tender, Understanding) were cited by a few participants ( $n \leq 9$ ) as characteristic of being feminine; five Masculine subscale items (Aggressive, Assertive, Dominant, Forceful, Independent) were cited ( $n \leq 12$ ) as characteristic of being masculine.

#### **What do "being masculine" and "being feminine" mean to the participants?**

"Masculine" and "Feminine" were two items included in the original (i.e., the long form) BSRI instrument. They were subsequently excluded from the short form BSRI because the self ratings on these two items were reported, consistently, to form a dimension with the two items on the opposite ends, i.e., people who score high on one item tend to score low on the other. This observation is not what Bem's theory had expected, where masculinity and femininity were proposed to be two independent "traits" that could "co-exist" in one person. A logical question that follows, is "what were the respondents thinking when they rated themselves on these two items? What did being masculine or being feminine mean to them?"

The mean self-ratings of the two items "Masculine" and "Feminine" are presented in Table 4.72. The male group rated themselves significantly higher ( $\alpha < .01$ ) on the "Masculine" item and significantly lower on the "Feminine" item than the female counterpart. Point-biserial correlations between the sex variable (male = 1 and female = 0) and the ratings on the Masculine item is .86 ( $p < .01$ ), and -.83 for the Feminine item

( $p < .01$ ). The present study appeared to support again the notion that the male and the female respondents placed themselves at the opposite ends of some continuum(s) that lie underneath the text "Masculine" and "Feminine."

To explore the meanings constructed from these two words, participants of current study were asked the questions: What does being masculine (and being feminine) mean to you? The answers to these questions were analyzed the same way as other items.

### **"What does being masculine mean to you?"**

Participants' meaning constructions of "being masculine" were abundant and highly associated with different aspects of the male sex. They are constructed based on participants' views of what males are like or what they should be like. Twenty five participants explicitly referred to the male sex when they were answering the question. Nine aspects of being the male sex were identified and listed below. The details or sub-categories of each property are presented in Table 4.73.

- Personal characteristics
- Roles
- Physical features
- Personal appearance
- Emotions
- Interests and activities
- Behaviors
- Abilities
- Professions

Table 4.72 : Self-ratings on Masculine and Feminine Items by Types of Participants

	<b>Total</b>	<b>Female</b>	<b>Male</b>	<b>A*</b>	<b>F*</b>	<b>M*</b>	<b>U*</b>	<b>Student</b>	<b>Adult</b>
<b>Masculine</b>									
M	4.35	2.65	6.05	4.22	3.33	5.89	4.08	4.45	4.25
SD	1.994	1.226	0.759	1.787	1.732	1.616	2.100	2.038	1.997
<b>Feminine</b>									
M	3.88	5.15	2.30	4.67	5.11	2.00	3.77	3.95	3.80
SD	1.911	1.121	1.031	1.658	1.453	1.000	1.922	2.089	1.765

\* Gender types: A - Androgynous; F - Feminine; M - Masculine; U - Undifferentiated.



As participants focused on different aspects (e.g., psychologically, physically, behaviorally) of being the male sex, the meanings varied accordingly. For instance, with a focus on the physical features, "masculine" was interpreted as having certain physical characteristics associated with the male sex, such as being tall, big and muscular, or having facial hair; or being physically strong and capable (e.g., capable of lifting a heavy load). With a focus on clothing or appearance, being masculine is to wear suits, jeans and T-shirts, to not pay attention to clothes, and to not care about being dirty or smelly. In terms of personal characteristics, "masculine" was interpreted as being strong and independent, to be responsible and reliable, to be the leader or to take charge and handle situations; it was also interpreted as being aggressive, dominant, forceful, assertive, achiever, and being tough and rough. Emotionally, being masculine was interpreted as being rational and logical and to not talk about feelings; to not cry and to conceal one's fear or weaknesses; to be emotionally strong and to have a sense of camaraderie. As a role, being masculine is being the provider and caretaker of a family. In a broader sense, being masculine was also viewed as being the protector or defender (of women and loved ones), and being the leader. Participants also talked about being masculine in terms of interests, abilities, and/or the activities one engaged in. In this sense, being masculine was interpreted as watching or playing sports, (e.g., football, hunting, fishing), working out in the gym or bodybuilding, driving big trucks, liking fast cars and working on cars, liking tools, and enjoying building things. Behaviorally, being masculine is to be loud, to get into physical fights, to tell sex jokes, and to be chauvinistic. Professionally, being masculine was constructed to mean having certain types of jobs, such as being a mechanic, doing construction work, or to be in the military; it was also interpreted to mean having a high position in an organization. Being masculine was also constructed based on the virtuous qualities participants associated with it, or as an ideal image of the

male sex, such as being courageous and brave, or to be a gentleman, who is warm and gentle and treats women with respect.

Additional interpretations also surfaced when the question of "not being masculine" was asked. For instance, mannerism, which was not incorporated in the meaning construction of "being masculine," was a common property referred by the participants when describing what "not masculine" meant to them, such as to walk or talk a certain way (i.e., similar to the female sex), to hold a pencil or cup a certain way, etc.. Engaging in cooking and home decorating type of household activities was similarly viewed as not being masculine. There were nine female participants, and no male participants, interpreted the meanings of "being masculine" in terms of the female sex, i.e., provided their views of a "masculine" female. Additional features emerged in this scenario as well, mostly in the areas of personal appearance, behaviors, and interests, such as to have very short hair, to not wear make up, to have no sex appeal (to men), to burp while eating, to be interested in action movies, to drink certain types of alcoholic beverage, to change a flat tire.

There were also unusual meaning constructions. For instance, being masculine was viewed as to look sexy, to eat meat and junk food, to chew tobacco or smoke cigarettes, to be straight forward (as opposed to having a hidden agenda), to be emotionally open, or to be harsh and not nice. One participant stated that simply being a male is being masculine.

Seventeen participants stated that the meaning of "being masculine" is a learned concept. Twenty participants specifically stated that being masculine is the opposite of "being feminine" or "having female characteristics."

The meanings constructed by the 40 participants are presented in Table 4.73. As reflected in the frequency counts, personal characteristics were the most frequently cited property, followed by interests and activity properties.

### *Comparing the two sexes*

The two groups were similar in many ways in how they constructed the meanings of "being masculine." There were also differences. One distinction lies in the way the question was framed by each sex, i.e., whether the question was answered with the female sex in mind, or with the male sex in mind. The male participants only described the meaning of "being masculine" in terms of a man, 14 of them explicitly referred to the male sex when they described the meanings of being masculine. None of them referred to the female sex. The female participants considered the question applicable to both sexes, as 11 of them explicitly referred to men and 9 to women when answering the question. New meanings did emerge when the question was applied to the female sex. For instance, "having short hair," "wearing comfortable clothes (i.e., not dressing up)," or "looking like a man" were not considered as "being masculine" when applied to a man, but were when applied to a woman. The two groups also appeared to differ in other areas. For instance, the female group appeared to be more focused on the physical aspect of being masculine, as they generated more and wider range of physical descriptions of being masculine (e.g., physical features, physical activities), the main physical activity that surfaced in the male group's interpretations was "body building." The male participants appeared to prefer role, abilities, and profession related meaning constructions.

Table 4.73: Meanings of "Being Masculine" by Types of Participants

	Total	Female	Male	A	F	M	U	Student	Adult
<b>Mean</b>	4.35	2.65	6.05	4.22	3.33	5.89	4.08	4.45	4.25
<b>S. D.</b>	1.994	1.226	0.759	1.787	1.732	1.616	2.100	2.038	1.997
<b>Personal characteristics</b>									
Strong	14	7	7	3	4	5	1.4	6	8
Dominant	12	4	8	1	2	5	2.8	7	5
Aggressive	11	4	7	2	4	3	1.4	7	4
Assertive	9	3	6	3	1	5	0.0	5	4
Independent - can take care of oneself	9	4	5	2	2	3	1.4	5	4
A gentleman	8	5	3	1	1	2	2.8	1	7
Rough - not gentle	8	5	3	1	2	1	2.8	4	4
To take charge to get things done	8	4	4	2	2	2	1.4	2	6
Courageous, brave, or bold	4	2	2	0	3	1	0.0	2	2
Responsible and reliable	4	2	2	0	2	2	0.0	1	3
Self confident	2	1	1	1	1	0	0.0	1	1
<b>Total</b>	<b>89</b>	<b>41</b>	<b>48</b>	<b>23</b>	<b>26</b>	<b>30</b>	<b>15.9</b>	<b>41</b>	<b>48</b>
<b>Roles</b>									
Head of a family - provider, care taker	14	6	8	1	4	5	2.8	7	7
Leader	11	3	8	2	1	6	1.4	5	6
Protector	9	4	5	2	2	1	2.8	2	7
<b>Total</b>	<b>34</b>	<b>13</b>	<b>21</b>	<b>5</b>	<b>7</b>	<b>12</b>	<b>7.0</b>	<b>14</b>	<b>20</b>
<b>Physical features</b>									
Someone who's muscular/tall/big/broad	12	9	3	3	3	2	2.8	8	4
To have facial or body hair	3	2	1	0	1	1	0.7	3	0
To speak with a deep voice	2	2	0	1	0	1	0.0	2	0
To be physically strong and capable	11	7	4	2	6	1	1.4	5	6
<b>Total</b>	<b>28</b>	<b>20</b>	<b>8</b>	<b>6</b>	<b>10</b>	<b>5</b>	<b>4.9</b>	<b>18</b>	<b>10</b>
<b>Personal appearances</b>									
Don't care about appearances	9	2	7	0	2	3	2.8	6	3
Women who wear comfortable clothes/not girly clothes	5	5	0	1	1	0	2.1	2	3
Someone who wears suits, jeans and shirts	3	0	3	0	0	1	1.4	3	0
A charming, sexy man	2	1	1	1	0	0	0.7	1	1
Women who wear very short hair or don't use make up	1	1	0	0	1	0	0.0	0	1
<b>Total</b>	<b>20</b>	<b>9</b>	<b>11</b>	<b>2</b>	<b>4</b>	<b>4</b>	<b>7.0</b>	<b>12</b>	<b>8</b>

	Total	Female	Male	A	F	M	U	Student	Adult
<b>Emotionally</b>									
Not being emotional	11	5	6	4	3	3	0.0	9	2
To be emotionally strong	5	3	2	2	1	1	0.7	2	3
To not appear vulnerable	4	2	2	0	1	2	0.7	4	0
Able to get negative feelings out in the open	3	2	1	1	1	0	0.7	3	0
To have a sense of camaraderie	2	0	2	1	0	1	0.0	1	1
To be emotionally open and being vulnerable	1	1	0	0	1	0	0.0	0	1
<b>Total</b>	<b>26</b>	<b>13</b>	<b>13</b>	<b>8</b>	<b>7</b>	<b>7</b>	<b>2.1</b>	<b>19</b>	<b>7</b>
<b>Interests and activities</b>									
To watch or play sports	17	9	8	4	3	6	2.8	10	7
To like cars and/or work on cars	12	7	5	3	3	1	3.5	7	5
To work out in the gym to build muscles	9	5	4	1	2	3	2.1	7	2
To chew tobaccos or smoke cigarettes	4	2	2	2	0	0	1.4	2	2
Women who like men's alcohol drinks and action movies	2	2	0	0	1	0	0.7	1	1
To like to tell sex jokes	2	2	0	1	1	0	0.0	1	1
To eat lots of junk food or red meat	2	1	1	1	0	0	0.7	1	1
To like blood or gore	1	1	0	1	0	0	0.0	0	1
To dislike chit-chat	1	1	0	0	0	1	0.0	1	0
Girls who hang around boys instead of girls	1	1	0	0	0	0	0.7	0	1
Wilderness men	1	0	1	0	0	0	0.7	1	0
<b>Total</b>	<b>52</b>	<b>31</b>	<b>21</b>	<b>13</b>	<b>10</b>	<b>11</b>	<b>12.5</b>	<b>31</b>	<b>21</b>
<b>Behaviorally</b>									
To be loud	4	3	1	0	1	2	0.7	3	1
To be physically aggressive	4	1	3	1	0	1	1.4	1	3
To approach girls in bars	2	0	2	0	0	2	0.0	2	0
To behave chauvinistically	1	0	1	0	0	0	0.7	1	0
To be straightforward and "linear"	2	2	0	1	0	0	0.7	0	2
<b>Total</b>	<b>13</b>	<b>6</b>	<b>7</b>	<b>2</b>	<b>1</b>	<b>5</b>	<b>3.5</b>	<b>7</b>	<b>6</b>
<b>Abilities</b>									
Able to work w/ machines/tools to build and fix things	5	1	4	1	1	0	2.1	0	5
Able to solve problems logically	4	1	3	2	1	0	0.7	1	3
Oblivious to interpersonal interactions	1	1	0	0	0	0	0.7	0	1
<b>Total</b>	<b>10</b>	<b>3</b>	<b>7</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>3.5</b>	<b>1</b>	<b>9</b>
<b>Professionally</b>									
To work in certain fields	3	1	2	1	0	0	1.4	2	1
To be career oriented	3	1	2	1	0	0	1.4	2	1
To be an achiever	3	1	2	0	1	1	0.7	3	0
<b>Total</b>	<b>9</b>	<b>3</b>	<b>6</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>3.5</b>	<b>7</b>	<b>2</b>

Specific differences between the two sexes are more readily noticeable by comparing the frequency counts in Table 4.73. In terms of personal characteristics, the male sex appeared to favor "dominant," "aggressive," and "assertive" as meanings of "being masculine." This preference was not shared by the female group, as the female participants referenced these characteristics as frequently as they did other such as "independent," "being a gentleman," "being rough," and "taking charge to get things done." Instead, "being strong" was the most common interpretation of "being masculine" among the female participants. In contrast, physical features are much more important in the female group's meaning constructions, as they used twice as many physical features, than the male group, to describe "being masculine". "Being tall, muscular, and big" was a particularly common construction, being cited by about half of the female participants. The two groups also differed in their views on "being masculine" in terms of personal appearances. About one third of the male group considered "not caring about personal appearances" as "being masculine," while the female group considered "wearing comfortable clothes (as opposed to the prissy ones)" as being masculine. The male group cited more "masculine" roles, particularly the "leadership" role. Males were also more likely to use abilities (e.g., mechanical, logical) and profession related properties to interpret the meanings of "being masculine."

### ***Comparing the gender types***

The mean item ratings of the four gender types are shown in Table 4.73. The mean rating of the Feminine participants is significantly lower than that of the Masculine group ( $p < .01$ ). The mean ratings of the Androgynous and the Undifferentiated groups are similar and fall between the mean ratings of the other two groups.

There was a rather noticeable contrast between the Masculine and the Feminine groups' summary interpretations. While the Feminine group's interpretations tended to

focus on being strong, not emotional, and being the provider or the protector, the Masculine group tended to focus on interests in sports, to be independent, dominant, and to be the leader. As the frequency counts in Table 4.73 indicated, the Masculine group stood out in many aspects of their meaning constructions of "being masculine." For instance, they referenced more personal characteristics, especially the "dominant" and "assertive" characteristics; they also emphasized roles, such as being the provider or the leader, they were unique in their focus on the leadership role. The Masculine participants were also more likely to consider having an interest in sport as "being masculine," and in referencing behavioral properties (such as being loud and approaching girls). Unlike the male participants, the Masculine ones did not include abilities or professions in their view of "being masculine." Other observations worth noting were the Feminine group's high referencing of the properties "to be courageous or brave" and "to be physically strong and capable" as "being masculine;" and the "Undifferentiated" group's low number of constructions, especially in the areas of personal characteristics and emotions.

### ***Comparing the adults and the students***

The mean item ratings between the adult and student groups are very close. The effect size was also quite small (0.099) based on the pooled standard deviations.

The interpretations of "being masculine" by the student and adult participants are summarized in Appendix G. The student group's meaning constructions appeared to focus on more stereotypical characteristics as reflected by their descriptions of physical characteristics, emotions, interests in sports and working out. The adults' interpretations tended to vary more among the participants and to be more focused on personal characteristics, abilities, and roles, as reflected by their descriptions of a person who can manipulate or fix things, who's strong, responsible, gentle, and can protect you. The adults' meaning constructions also seemed to have added their personal preferences or

their ideal of what a masculine man should be like, as reflected by descriptions such as gentle and warm, "sexy, a guy you can depend on," "does not have to hurt or dominate others."

Comparisons of the frequency counts between the two groups clearly reflected group differences. The adult group used more personal characteristics to describe "masculinity." For instance, "to be strong," "to take charge," and "to be responsible" were viewed more by the adult participants as characteristic of "being masculine," the "gentleman" quality was almost exclusively referenced by the adult group; whereas "dominant" and "aggressive" were the most common views of the student participants. The role of the protector and having mechanical and logical problem solving abilities were cited much more by the adults as aspects of "being masculine." In contrast, students relied more on physical features, such as "being muscular, tall, and big," "to have facial or body hair," "to speak with a deep voice," and activities, such as "to watch or play sports" and "to work out in the gym," when describing "being masculine." They were also more likely to consider emotion related properties, such as "not being emotional," "not appearing vulnerable," and "displaying negative emotions" and jobs or careers when constructing the meanings of "being masculine."

### **"What does being feminine mean to you?"**

Mirroring the meaning constructions of "being masculine," "being feminine" was also constructed mostly based on participants' experiences and perceptions of what the female sex is like. Almost 75% (n = 29) of the participants referred to women or girls when answering the question, such as girls wear makeup, females care about how they look, women are more submissive. The meanings of "being feminine" also appeared to include the element of an ideal or preference, such as "to be beautiful and good looking." There was a strong tendency to interpret "being feminine" as being opposite from "being



masculine," as 24 participants explicitly made such statements or implied such a position by contrasting the two. As participants focused on different aspects of "being the female sex," such as psychological, physical, behavioral, abilities, interests, activities, etc., their meaning constructions of "being feminine" changed accordingly. With a focus on physical features, "being feminine" was interpreted as being slender or thin, having softer facial features, having a female body, not hairy, etc.. Situated in personal appearance, "being feminine" is to be very concerned with how you look, to wear makeup, to wear dresses, skirts, blouses, heels, and accessories, to spend a lot of time fixing hair, to be beautiful, to wear pink or purple, to dress for sex appeal or to attract guys, or to be girly. In terms of personal characteristics, "being feminine" was interpreted as being nurturing, caring, compassionate, sympathetic, kind, giving; it was also interpreted as being gentle, soft, tender, being submissive, needy or dependent, and delicate or frail. With a focus on emotions and feelings, "being feminine" was interpreted as being emotional, having lots of emotions and acting based on emotions; dealing with feelings; to cry, to show one's hurt or weakness; to be sensitive and attentive to people's feelings; to be emotionally dependent on people or cannot be alone. As a role, being feminine is being the mother or someone who raises and takes care of children; to be the housewife who performs house chores such as cooking, cleaning and decorating. More generally, being feminine is also being the caretaker - someone who takes care of people, both physically and emotionally. With a focus on personal interests and activities, being feminine was interpreted as enjoying cooking, gardening, decorating; likes jewelry, shoes, and things, likes to shop, likes to watch love movies or chick flicks; desires to be someone's girlfriend, wife or mother; likes light-weight sports (e.g., running). Behaviorally, "being feminine" is being lady-like, to have proper manners (e.g., to not use vulgar language, to sit with legs crossed), to eat and drink with moderation, to not smoke; to giggle, to be scared of bugs

or easily scared. Professionally, "being feminine" was constructed to mean having certain types of jobs, such as being a teacher, to work with children, to be a dancer, or to be a model or designer. The meaning of "being feminine" was also constructed in terms of abilities, such as having people skills, being artistic or creative, capable of making things beautiful or stylish, and having the ability to attend to details.

It was interesting to note that 12 men described effeminate males as being feminine, whereas only two females made such references. Effeminate characteristics were mostly described in terms of personal appearances, mannerisms, interests or professions. Unlike the meaning constructions of "being masculine," where new properties emerged (e.g., mannerisms) during participants' interpretations of "not being masculine," no new properties emerged during participants constructions of "not being feminine."

There were many rare meaning constructions (more so than was observed in the "being masculine" meaning constructions). For instance, as a personal characteristic, "being feminine" was constructed to mean being reserved, loyal, cautious, sincere; physically, to have a sweeter smell; behaviorally, to be ditzy, to be petty, to nag, to move with style etc.. One participant stated that simply being a female is being feminine.

To analyze the meaning constructions of "being feminine," properties, attributes or categories were identified along with the sub-categories. These properties were further grouped based their psychological, physical, behavioral, and other characteristics. They are presented in Table 4.74.

Table 4.73 shows how frequently each category was referenced. As reflected in the frequency counts, there were various meaning constructions about many different aspects of being feminine. However, most constructions appeared to focus on personal appearances, followed, but not closely, by personal characteristics, and then by emotion.

Table 4.74: Meanings of "Being Feminine" by Types of Participants

	Total	Female	Male	A*	F*	M*	U*	Student	Adult
<b>Mean</b>	3.88	5.15	2.30	4.67	5.11	2.00	3.77	3.95	3.80
<b>S. D.</b>	1.911	1.121	1.031	1.658	1.453	1.000	1.922	2.089	1.765
<b>Personal characteristics</b>									
Nurturing and caring	15	7	8	3	4	4	2.8	6	9
Maternal	8	6	2	2	1	3	1.4	5	3
Sympathetic, understanding, empathetic	7	3	4	2	2	3	0.0	6	1
Compassionate	6	3	3	2	1	2	0.7	5	1
Helpful, giving, and kind	5	1	4	2	0	2	0.7	1	4
Soft	6	3	3	1	2	1	1.4	2	4
Gentle	6	2	4	4	0	1	0.7	4	2
Tender	3	2	1	1	1	0	0.7	3	0
Physically affectionate (hugging and kissing)	2	1	1	0	1	1	0.0	1	1
Submissive	6	4	2	1	1	2	1.4	3	3
Needy and dependent	6	4	2	1	1	2	1.4	2	4
Delicate - to be handled with care	3	1	2	1	0	0	1.4	3	0
Miscellaneous*	6	3	3	1	2	1	0.7	4	2
<b>Total</b>	<b>79</b>	<b>40</b>	<b>39</b>	<b>21</b>	<b>16</b>	<b>22</b>	<b>13.8</b>	<b>45</b>	<b>34</b>
<b>Roles</b>									
Mother - to raise/to take care of children	9	3	6	1	2	2	2.8	2	7
Housewife - to take care of house chores/home	4	4	0	3	1	0	0.0	2	2
Caretaker - to take care of people	3	1	2	0	0	1	1.4	2	1
<b>Total</b>	<b>16</b>	<b>8</b>	<b>8</b>	<b>4</b>	<b>3</b>	<b>3</b>	<b>4.2</b>	<b>6</b>	<b>10</b>
<b>Physical features</b>									
More slender and thin	4	3	1	0	1	1	1.4	3	1
To be physically weaker than the male sex	3	3	0	1	1	0	0.7	1	2
To have softer facial features	2	1	1	1	0	0	0.7	2	0
To have female physical features/physiology	2	0	2	0	1	0	0.7	1	1
Miscellaneous*	3	1	2	1	0	0	2.1	3	0
<b>Total</b>	<b>14</b>	<b>8</b>	<b>6</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>5.5</b>	<b>10</b>	<b>4</b>

	Total	Female	Male	A*	F*	M*	U*	Student	Adult
<b>Personal appearances</b>									
Cares a lot about how oneself looks	19	11	8	3	5	5	4.2	13	6
To wear certain type of clothing/shoes/accessories	16	9	7	3	5	3	3.5	11	5
To wear makeup	13	9	4	2	4	3	2.8	10	3
To be beautiful and good looking	12	4	8	3	3	1	3.5	6	6
To spend a lot of time on one's hair	9	4	5	1	1	3	2.8	7	2
To dress to have sex appeal/to attract people	8	7	1	2	2	3	0.7	8	0
Girly	8	7	1	2	2	2	1.4	7	1
To wear pink, purple colors and flowery patterns	6	4	2	2	3	0	0.7	3	3
To have manicure/pedicure done	5	3	2	1	1	1	1.4	2	3
To be dainty/prissy	3	3	0	1	1	1	0.0	3	0
To have soft appearance	3	2	1	2	1	0	0.0	2	1
To have long hair/to wear hair a certain way	2	0	2	0	0	1	0.7	2	0
Men who dress a certain way	2	1	1	0	0	1	0.7	1	1
<b>Total</b>	<b>106</b>	<b>64</b>	<b>42</b>	<b>22</b>	<b>28</b>	<b>24</b>	<b>22.2</b>	<b>75</b>	<b>31</b>
<b>Emotion</b>									
Emotional	16	7	9	4	4	3	3.5	11	5
Attentive to people's feelings	12	8	4	6	2	2	1.4	6	6
To cry/to show hurt/to admit weaknesses	5	3	2	0	2	2	0.7	5	0
Willing/Enjoys dealing with own emotions	4	1	3	0	1	1	1.4	3	1
Can't be alone	4	2	2	1	0	2	0.7	3	1
Cares about what people think about you	1	0	1	0	0	1	0.0	1	0
<b>Total</b>	<b>42</b>	<b>21</b>	<b>21</b>	<b>11</b>	<b>9</b>	<b>11</b>	<b>7.6</b>	<b>29</b>	<b>13</b>
<b>Interests and activities</b>									
To engage in domestic activities	6	2	4	1	2	0	2.1	0	6
Likes jewelry, shoes, perfume, frills and ruffles	4	3	1	2	0	1	0.7	1	3
Seeks to be the girlfriend/wife/mother	3	3	0	1	1	1	0.0	2	1
To engage in light-weight sports (e.g., running)	3	2	1	1	0	2	0.0	3	0
Likes to shop	3	2	1	0	1	1	0.7	3	0
Likes to be clean (grooming/hygiene)	2	2	0	0	1	0	0.7	1	1
Likes to watch love movies/chick flicks	2	1	1	0	0	0	1.4	1	1
Miscellaneous*	2	2	0	0	1	0	0.7	1	1
<b>Total</b>	<b>25</b>	<b>17</b>	<b>8</b>	<b>5</b>	<b>6</b>	<b>5</b>	<b>6.2</b>	<b>12</b>	<b>13</b>

	Total	Female	Male	A*	F*	M*	U*	Student	Adult
<b>Behavior</b>									
To have proper "lady-like" manners	5	3	2	1	1	0	2.1	3	2
To eat/drink with moderation/to not smoke	3	3	0	1	2	0	0.0	2	1
To giggle	2	2	0	1	0	1	0.0	2	0
To be afraid of bugs/to be scared easily	2	1	1	1	0	0	0.7	1	1
Miscellaneous*	5	3	2	1	0	1	2.1	1	4
<b>Total</b>	<b>18</b>	<b>13</b>	<b>5</b>	<b>5</b>	<b>4</b>	<b>2</b>	<b>4.8</b>	<b>9</b>	<b>9</b>
<b>Ability</b>									
People skills	7	4	3	3	1	1	1.4	3	4
Ability to make things beautiful/stylish, artistic	5	1	4	2	2	0	0.7	1	4
Attention to details	2	1	1	1	0	1	0.0	1	1
Creative	1	0	1	0	0	1	0.0	1	0
<b>Total</b>	<b>15</b>	<b>6</b>	<b>9</b>	<b>6</b>	<b>3</b>	<b>3</b>	<b>2.1</b>	<b>6</b>	<b>9</b>
<b>Profession</b>									
To be teachers	3	1	2	0	2	0	0.7	0	3
To work in the field of child care	2	1	1	0	1	0	0.7	0	2
To be dancers/ballerinas	1	0	1	0	0	1	0.0	1	0
Men who work in the field of modeling/designer	1	0	1	0	0	0	0.7	1	0
<b>Total</b>	<b>7</b>	<b>2</b>	<b>5</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>2.1</b>	<b>2</b>	<b>5</b>

### *Comparing the two sexes*

The mean rating on the item for the female participants was significantly higher than the male group ( $p < .001$ ). The effect size is 2.65 based on the pooled standard deviations.

As mentioned earlier, most participants (both male and female) referred "being feminine" to being the female sex, in terms of what women or girls are like or should be like. The two sexes did not appear to differ substantially in their views of "being feminine." Both groups relied heavily on personal appearance and personal characteristics, and the emotions, to a lesser extent, in their meaning constructions. The two groups did differ somewhat in the specifics. For instance, the female group was more likely to use "maternal" related properties (e.g., motherly, maternal instincts), while the male group tended to describe being feminine as being "giving" or "kind." However, more male participants considered raising/taking care of children as a feminine role; whereas only the female group considered the housewives who take care of the house chores as "being feminine." The two groups differed more in the way they referred to personal appearances: The female group provided many more properties in this category than the male group. Some of them were almost exclusively cited by the female participants, such as "dress to have sex appeal/to attract," "girly," and "being dainty/prissy." Twice as many females viewed "wearing make up" as being feminine, whereas twice as many males considered "being beautiful and good looking" as "being feminine." Only female participants mentioned "being physically weaker" as characteristics of "being feminine." In terms of emotion related constructions, twice as many females noted "attentive to people's feelings" as "being feminine." The female group also provided twice as many behavioral, interests and activity related views of

being feminine. In contrast, the male group was more inclined than the female group to interpret “being feminine” in terms of having artistic abilities and professions.

The two groups also differed in the context in which meanings of "being feminine" was constructed. Twelve male participants interpreted the meaning of "being feminine" as it applied to the male sex, while very few females applied it to the male sex. In this process, those participants included descriptions of effeminate males as “being feminine." This phenomenon was similarly observed during the meaning constructions of "being masculine" However, meanings did not vary when "being feminine" was applied to the male sex, i.e., effeminate characteristics were similar to the meaning constructed as what "being feminine" means when applied to a woman.

### ***Comparing the four gender types***

As presented in Table 4.74, the Feminine group has the highest mean rating, followed closely by the Androgynous group. The Masculine group has the lowest mean rating and is significantly lower than that of the Feminine group ( $p < .001$ ).

The four groups did not appear to differ significantly from one another based on the frequency counts. There were minor group differences. For instance, the Undifferentiated group used fewer personal characteristics and emotion or feeling descriptors to construct the meanings of “being feminine;“ relative to the other groups, the Masculine group was less likely to use physical features and behaviors; the Androgynous group was unique in their preference for “gentle” and “attentive to people’s feelings” to describe the meanings of “being feminine." The Masculine and the Feminine groups did not differ in how each group interpreted “being feminine,“ which is different from what was observed in the meaning constructions of "being masculine," where apparent differences were noted.

### ***Comparing the student and adult groups***

The mean item ratings of the adults and the students are very close. The effect size was also quite small 0.078 based on the pooled standard deviations. The interpretations of "being feminine" by the student and adult participants are summarized in Appendix G.

Comparisons of the frequency counts between the two groups clearly reflected group differences. The most noticeable contrast between the two groups was student participants' heavy reliance on personal appearances to describe the meanings of "being feminine." They cited more than twice the descriptors in this category than the adult group. There were six properties in this category where student participants cited two to three times more than the adult participants did: "to care a lot about how one looks," "to wear certain type of clothing/shoes/accessories," "to wear makeup," "to spend a lot of time on one's hair," "to dress to have sex appeal," and "to be girly." The last two descriptors were almost never considered by the adult group. Secondly, the student participants used more personal characteristics than the adult group. However, forty percent of the descriptors they used are items from the scale (e.g., "sympathetic," "understanding," "gentle," "tender"). The adult group is different from the student group in their focus on the "nurturing and caring" property, as almost half of them viewed that as "being feminine." "Gentle" and "delicate - to be handled with care" were only considered by the student group. Student participants also relied more heavily on physical features and emotions to construct the meanings of "being feminine." The frequency counts of these categories for the student group are more than doubled than those generated by the adult group, as indicated in Table 4.74\_. Student participants also generated meanings that were not shared by the adult group, such as "to have female physical features or physiology," "to have softer facial features," and "to cry." Lastly, the



adult group stood out in their choices of the "mother" role, the engagement in domestic activities, the ability to make things beautiful, and childcare and teaching professions as meanings of "being feminine."

## **Summary**

### ***Multiple meanings***

Numerous meanings were constructed for each item by the participants. The frequency distributions of the meanings generated for each item are typically skewed: There were commonly shared meanings, as they were cited by a large number of participants. There were fewer shared views. There were rare constructions where only two or three participants made such interpretations. There were unique where the meaning was not shared.

The various meanings constructed for each item may reflect the same theme but differ in other respects. For instance, "Defends own beliefs" was constructed to mean "speaking against others," "speaking up at a risk," "willing to express own views," "providing the rationale behind own position," "unwilling to be swayed" etc. These meanings reflect a central theme of a view or position held by an individual, but they differ in the how, when, and why the view or position is presented. This pattern of construction was also observed in the interpretations of "Has leadership abilities," "Willing to take risks," "Willing to take a stand," "Affectionate," "Sensitive to the needs of others," "Eager to soothe hurt feelings." The various meanings constructed for an item may also carry distinct senses, such as interpreting "Strong personality" as "being assertive," "having socially desirable characteristics," "a non-conforming person," "being overbearing" etc.. Items that contained this type of meaning construction include

"Independent," "Assertive," "Forceful," "Dominant," "Aggressive," "Sympathetic," "Understanding," "Compassionate," "Warm," "Tender," "Loving children," "Gentle."

There were also apparent misinterpretations where meanings were denotatively incorrect or misconstrued in the context, such as interpreting "Compassionate" as being passionate, or meanings constructed were not intended by the test developer, such as interpreting "Eager to soothe hurt feelings" as soothing one's own feelings, "Sensitive to the needs of others" as finding others' requests offensive.

***Research question 1a: Sex differences in meaning constructions***

There were apparent sex differences in the interpretations of the items "Affectionate," "Eager to soothe hurt feeling," "Forceful," "Gentle," "Has leadership abilities," "Strong personality," "Understanding." Moderate sex differences were also observed in the meaning constructions of items "Assertive," "Dominant," "Independent," "Sensitive to the needs of others," "Tender," and "Warm." Small but important sex differences were found in the meanings constructed for "Aggressive," "Willing take risks," and "Willing to take a stand."

Sex differences in meaning constructions were observed in a number of ways: The two sexes differed in their tendency to make certain interpretations. For instance, females tended to interpret "Affectionate" as being "touchy-feely" and the males tended to interpret "Affectionate" as being "romantic." There were meanings constructed exclusively by one group. Sex differences also surfaced in the examples provided by the participants, such as the abortion/birth control related beliefs cited more by the female group and sports related examples cited more by the male group.

***Research question 1b: Gender type differences in meaning constructions***

Gender type differences were observed. There were seven items where the Masculine and the Feminine groups' meaning constructions stood out (i.e., they differ from the other two gender types): "Affectionate," "Aggressive," "Compassionate," "Eager to soothe hurt feelings," "Gentle," "Independent," and "Warm." There were also six items where each gender type group's interpretations differed: "Forceful," "Has leadership abilities," "Sensitive to the needs of others," "Strong personality," "Understanding," and "Willing to take a stand." Additionally, the Masculine group's interpretations of "Having leadership abilities" and "Forceful," and the Undifferentiated group's interpretations of "Strong personality" were more unique. The Androgynous and the Masculine groups were similar in their interpretations of "Assertive" and "Willing to take risks." The Androgynous and the Feminine groups were similar in their interpretations of "Independent."

Except for the seven items where the Masculine and the Feminine groups' interpretations were found to be different, these gender type differences were not "systematic," i.e., they did not show patterns consistent with the expectations of the gender schema theory. If the gender schemas contribute to the meaning constructions, the Masculine and the Feminine types, who are gender schematic, would be more similar and the other two gender types, who are not gender schematic, would be more similar in their interpretations of the items.

***Research question 2: Life experiences and meaning constructions***

Life experiences clearly played a role in participants' meaning constructions. There were differences between the constructed meanings of the student participants and the adult participants. Fourteen items indicated such group differences, twelve substantially ("Affectionate," "Aggressive," "Compassionate," "Dominant," "Forceful,"

"Gentle," "Has leadership abilities," "Loving children," "Strong personality," "Understanding," "Willing to take risks," and "Willing to take a stand") and two moderately ("Defends own beliefs," and "Eager to soothe hurt feelings"). The two groups differed in three ways: (1) Meanings were constructed exclusively by one group (e.g., "Compassion" was interpreted as "to understand and to forgive people's mistakes" by the adult group only; "Loving children" was interpreted as "to want to have own children" by the student group only). (2) A "shared" meaning was cited more by one group. For instance, there were more student participants (n = 11) that considered "Compassionate" as "to do a good deed" than the adult group (n = 6); there were more adult participants (n = 10) that interpreted "Loving children" as "to take care of and to nurture children" than the students (n = 6). (3) Rare meanings were constructed more by the adult group. This was observed consistently across items.

A more direct indication of the influences of life experiences on meaning constructions was observed in two ways. (1) Distinct features surfaced in the examples provided by each group. For instance, school related subject matters, such as school assignments, projects, classes, professors, were a recurrent theme in the examples provided by the student participants; while the adults often used work related examples. (2) Recent events experienced by the participants were also observed in the participants' meaning constructions. For instance, several participants incorporated the abortion demonstration on campus into their meaning construction of the items "Defends own beliefs," "Forceful," and "Strong personality;" several student participants referenced class discussions in their interpretations.

### ***Research question 3: Item characteristics and meaning constructions***

The socially shared, gender related desirability of each subscale item, as contended by Bem who developed the instrument, did not appear to play a significant

role in participants' meaning constructions, at least in the sense of reflecting such a characteristic. The socio-constructive view on meaning construction and Bem's gender schema theory would expect items from the Femininity and Masculinity subscales be interpreted as culturally desirable characteristics related to each sex. Only four items from the Femininity subscale, "Gentle," "Tender," "Understanding," and "Warm," were noted by a small number of participants as being related to the female sex or being "maternal," while no such statements were made regarding the items from the Masculinity subscale. In contrast, three "Masculine" items, "Aggressive," "Dominant," "Forceful," were viewed by quite a few participants as carrying a negative connotation, or potentially undesirable.

Worth noting was the observation that when answering the question "what does being masculine (or feminine) mean to you," some participants did quote five Feminine subscale items (Compassionate, Gentle, Sympathetic, Tender, Understanding) as characteristic of being feminine and five Masculine subscale items (Aggressive, Assertive, Dominant, Forceful, Independent) as characteristic of being masculine.

### ***Participants meaning constructions of "being masculine" and "being feminine"***

Participants' meaning constructions of "being masculine" and "being feminine" were abundant. They were constructed mostly based on participants' perceptions of what men and women are like or should be like. Half of the participants explicitly stated that masculinity and femininity are antonyms. Almost half of the participants acknowledged the social cultural influences on their interpretations of these two concepts.

"Being masculine" was most frequently interpreted in terms of personal characteristics (e.g., strong, dominant, aggressive), followed by interests and activities (e.g., sports, cars, working out.) Also common were references to roles (e.g., provider of a family, leader, protector), physical features (e.g., muscular, tall, big), emotions (e.g., not

emotional, emotionally strong) and personal appearance (e.g., don't care about how one looks). More uniquely, "being masculine" was viewed in terms of behaviors (e.g., loud, physically aggressive), abilities (e.g., capable of building or fixing things, logical), and professions (e.g., to work in the construction fields, to be career oriented). Although most of the meaning constructions focused on what men are like, there were also elements of ideal or preferences (e.g., being a gentleman). When "being masculine" was applied to the female sex, new meanings emerged, mostly in terms of male-like appearances and behaviors, such as to have short hair, to not wear makeup, to drink certain types of alcoholic beverages.

"Being feminine," in contrast, was most frequently constructed with a focus on personal appearance (e.g., to care about how one looks, to wear dresses, accessories, heels, to wear makeup), followed by personal characteristics, with an emphasis on being nurturing or caring. Also common were constructions referencing emotion related behaviors (e.g., emotional, attentive to feelings), and to a less extent, interests and activities (e.g., to engage in domestic activities, to be interested in jewelry, shoes, perfumes, shopping). A few participants interpreted "being feminine" in terms of behaviors (e.g., to have proper manners, to giggle), roles (e.g., to be the mother, to be the housewife), physical features (to have softer features, to be physically weaker), and professions (e.g., to be a teacher, to work in child care). There were also quite a few unusual interpretations of being feminine, such as being more reserved, loyal, cautious, sincere, to have a sweeter smell, to be ditzy. Although most of the meaning constructions focused on the perceptions of what women are like, they also included few elements of ideal or preferences, such as to be lady like, to be physically slender, to move with a style, or to be nurturing.

For both "Feminine" and "Masculine" items, the mean score ratings are significantly different between the male and the female group, as well as between the Masculine and the Feminine gender type (i.e., male and the Masculine gender type scored significantly higher on the "Masculine" item). The mean ratings between the student and adult group did not reach statistical significance.

Sex differences in meaning constructions. There appeared to be some sex differences in the interpretation of "being masculine." The male participants only described the meaning of "being masculine" in terms of a man, while the female participants applied the question or concept to both sexes. As mentioned earlier, new meanings emerged when applied to the female sex. Additionally, the female group tended to rely on the physical characteristics to describe the meanings of being masculine, while the male group focused on a variety of properties but not the physical one. Specifically, in terms of the personal characteristics, the male sex appeared to favor "dominant," "aggressive," and "assertive" as meanings of "being masculine," the female group, "strong." In terms of personal appearance, about one third of the male group considered "not caring about personal appearances" as "being masculine," while the female group considered "wearing comfortable clothes (as opposed to the prissy ones)" as being masculine. The male group also cited more "masculine" roles, particularly the "leadership" role in their interpretations, and they were more likely to use abilities (e.g., mechanical, logical) and profession related properties.

The two sexes did not appear to differ as much in their views of "being feminine." Both groups relied heavily on personal appearance and personal characteristics, and to a lesser extent, emotions in their meaning constructions. The two groups did differ somewhat in the specifics. For instance, the female group tended to rely on the "maternal" characteristics, the housewife role, personal appearance properties (e.g.,

wearing makeup, dress to have sex appeal and being girly), and emotion related properties (e.g., attentive to people's feelings), while the male group's constructions focused more on the "child-rearing" role, "being beautiful," and "having the artistic ability to make things beautiful" when interpreting "being feminine."

Gender type differences in meaning constructions. There were differences in the way "being masculine" was interpreted by the Masculine and the Feminine groups. The contrast can be easily noted simply by reading the group's summary interpretations. The frequency counts indicated that the Masculine group's interpretations stood out in their focus on personal characteristics, especially the "dominant," "assertive," "provider" and "leader" roles, having interests in sports, and in referencing behavioral properties such as being loud and approaching girls. In contrast, the Feminine group's interpretations tended to focus on being courageous or brave, being physically strong and capable, not being emotional, and being the provider or the protector. The "Undifferentiated" group generated many fewer constructions, especially in the areas of personal characteristics and emotions.

There were no noticeable differences in the way "being feminine" was interpreted by different gender types.

Student-adult differences in meaning constructions. The group differences were notable in their interpretations of "being masculine." The student group's meaning constructions appeared to focus more on the stereotypical characteristics, including physical characteristics, such as "being muscular, tall, and big," "to have facial or body hair," "to speak with a deep voice," and activities, such as "to watch or play sports" and "to work out in the gym." They were also more likely to consider emotion related properties, such as "not being emotional," "not appearing vulnerable," and "displaying negative emotions" and jobs or careers. In terms of "masculine" personal characteristics,



"dominant" and "aggressive" were the most common views held by the student participants. In contrast, the adults' interpretations tended to vary more among the participants and to be more focused on personal characteristics, such as "to be strong," "to take charge," and "to be responsible." The role of the protector and having mechanical and logical problem solving abilities were also cited much more frequently by the adults as aspects of "being masculine." They also seemed to have added their personal preferences or their ideal of what a masculine man should be like, as reflected by descriptions such as gentle and warm, "sexy, a guy you can depend on," "does not have to hurt or dominate others." The "gentleman" quality was almost exclusively referenced by the adult group.

There were also apparent differences between the two groups on being feminine. The most noticeable contrast between the two groups was student participants' heavy reliance on personal appearance and other feminine subscale items to describe the meanings of "being feminine." Student participants also more frequently referred to physical features and emotions to construct the meanings of "being feminine." They generated meanings that were not shared by the adult group. In contrast, the adult group focused more on the "nurturing and caring" property as being feminine. They also stood out in their referencing of the "mother" role, the engagement in domestic activities, the ability to make things beautiful, and dedication to childcare or teaching professions as aspects of "being feminine."

## Chapter 5: Discussion

### MULTIPLE MEANING CONSTRUCTIONS

The current study found that multiple meanings were almost always constructed for each item by individual participants. The meanings constructed for an item may have a core meaning but varied with fine gradations within and among participants, such as interpreting the item "Affectionate" as "to display affection through physical touch," "to be caring, loving, and nice" and "to display affection verbally"). The meanings could also be categorically different, such as interpreting "Strong personality" as "an assertive person," "a socially popular person" and "a nonconforming person"). The polysemous nature of words was proposed by Wittgenstein (1953) and studied by cognitive and reading comprehension researchers in the 70s (Anderson & Shifrin, 1980). These scholars challenged the commonly held assumption that a word has a fixed meaning. Results from the current study clearly showed the case to be the contrary.

Each individual's meaning constructions of an item are usually a subset of what was constructed by the entire group. There were also rare and unique meaning constructions that were not commonly shared or not at all shared. More concerning was also the observations of misinterpretation, either denotatively incorrect, such as interpreting the item "Compassionate" to mean being passionate, or not in accord with the intent of the developer of the instrument, such as reading "Eager to soothe hurt feelings" to mean comforting one's own hurt feelings. More than half a century ago, Blumer (1956) claimed that the core of human action is the process of interpretation and emphasized that that process should not be overlooked by researchers. The findings here indicated the interpretive process is also active in personality test taking. These findings may be taken

as challenges to the demand and assertion of a "standardized" testing setting held by quantitative researchers.

The observation of multiple meaning constructions leads to important questions that must be explored: To what extent do the self ratings on an item reflect the same underlying construct among people? How comparable are the self-rating scores across individuals? These questions may be addressed by analyzing the content of the think aloud process that takes place during the phase of self rating. However, investigation also showed that the undisturbed think-aloud procedure adopted by the current study did not reflect much of the meaning constructions of the participants at the moment of scoring. For most items, the participants commonly rated themselves readily on an item without referencing specific meanings. At best, they would briefly explain why they chose a certain number. They were not concerned about the multitude of meanings (which they provided later after the self-rating) that could be applied to an item. There were a few items (e.g., "Having leadership abilities," "Understanding," "Willing to take risks") where some participants did express having difficulties choosing an interpretation for self rating. In the first situation, where participants readily perform self assessment without articulating or elaborating their interpretation of the item, self schema theory may provide a good explanation. This theoretical framework would argue that these individuals have established, based on past experiences, a well formed self schema in that domain which enables them to think and evaluate themselves readily (Markus et al., 1982). For instance, in American society, a college student would be considered independent if he supports himself financially and writes term papers without resorting to external help (This view is supported by the finding of the current study). A college student participant who grew up in this society is likely to have already formed a self schema regarding being independent. He would evaluate himself readily according to the established schema

without having to resort to articulating the specifics against which self evaluation is to be performed. To uncover the specific meanings or domain in which self is assessed, a modified or more intrusive think-aloud procedure may need to be adopted where questions would be asked of the participants to probe their self evaluation process.

Researchers who studied polysemy also pointed out the importance of context in the processing of the meaning of a word. They claimed meanings of a word shift from context to context. One study of the BSRI (Smith et al., 1999) manipulated the social context in which the subjects were to perform self rating on each item. For instance, for the item "Affectionate," the subjects were instructed to rate themselves in the context of interacting with same sex friends, opposite sex friends, at home, at work, etc. The study reported significant differences in self ratings across different social contexts, suggesting "affectionate," as an example, means different things to the subjects in different contexts. (It would be unlikely that the change in self ratings is strictly quantitative with no corresponding changes in the meaning of "affectionate" constructed for different contexts.) This finding suggests perhaps the meaning constructions of the test items may be manipulated by specifying the context in which interpretations need to be situated, and consequently, generating self rating scores that are more comparable across individuals.

The current study also adopted the socio-constructive view on meaning constructions. This theoretical framework maintains that meaning constructions are shared and are always situated in the social, cultural experiences of the person. This view implies that people with similar social and cultural experiences construct more similar meanings than those constructed by people with different social and cultural experiences. Adopting this perspective, the current study investigated the meaning constructions of the two sex groups and the two age groups composed of undergraduate students and working adults. Presumably, the social and cultural experiences of the females are different from

those of the males, and those of the students would be different from those of the older, working adults. The study did find substantial differences between the student and adult groups' interpretations of majority of the items, and fewer, but still important differences between the male and the female groups' views.

#### **SEX DIFFERENCES IN MEANING CONSTRUCTIONS**

Sex differences were observed in the meaning constructions of 13 out of the 20 items. Six additional items were found to have small but important sex differences nonetheless. An immediate implication from this observation is the comparability of the mean scores between the two sex groups. For instance, if the males rate themselves on the item "Aggressive" in terms of playing sports or being physically violent, and the females rate themselves in terms of going after a personal goal, then the mean scores from the two groups are not likely to be measuring the same underlying construct. Potential sex differences in meaning constructions complicate the interpretations of statistical analyses when the two groups do not differ significantly. Of the 13 items where sex differences in item interpretations were noted, nine of them did not show significant mean score differences between the two sexes: "Affectionate," "Assertive," "Dominant," "Forceful," "Gentle," "Has leadership abilities," "Independent," "Strong personality," and "Warm." In these situations, where the two groups' self-rating scores did not differ significantly, at the same time there was also the tendency for the two groups to situate the interpretations in different contexts, it would be difficult to interpret the meaning of similar self-rating scores between the two groups. For instance, the male and the female participants did not differ significantly in their self-assessment on the item "Affectionate." At the same time, there was a higher tendency for the male group to interpret "Affectionate" as displaying affection towards one's girlfriend, whereas the female group tended to interpret "Affectionate" as displaying affection through physical

contact in general. Therefore, it would be misleading to conclude, based solely on the t-test results, that the male and the female groups were similar in their self assessment on being affectionate.

As described in Chapter 1, factor analysis studies have reported inconsistent findings concerning the comparability of the factor structures between the two sexes. Several studies did report sex differences in various aspects of factor analyses results. Pedhazur and Tetenbaum (1979) were the first to report different factor structures between the two sexes. Belcher et al (1984) extracted 10 factors from both groups but concluded only one factor was judged to be similar. These authors questioned whether the same instrument, i.e., BSRI, can be used to measure sex role orientations of males and females. Windle and Sinnott (1985) extracted different numbers of factors for the two sexes and argued for qualitative differences underlying the two factor structures. Blanchard-Fields et al. (1994), based on confirmatory factor analysis, found similar factor loadings between the two sex groups, but they reported different item-factor correlation patterns for the two sexes. For instance, for males, self ratings on the item "Masculine" correlated positively with the "Interpersonal affect" and "Compassionate" factors whereas for females they correlated negatively. In other words, males tend to rate themselves both masculine and interpersonally sensitive, but females do not. If the sex differences in the meaning constructions of items observed in the current study were also in operation in these other studies, it may provide some perspectives to account for the different factor analyses results. For instance, in the current study, when describing the meaning of being masculine, the two sexes differed in three areas: The male participants tended to use roles, such as being the provider, caretaker, leader or protector, to define being masculine, whereas the female participants were more likely, than the male group, to use physical features, interests and activities to define being masculine. The meaning

constructions of "masculine" by the male participants in the current study seemed to provide some explanation of the positive correlation between "Masculine" and "Interpersonal affect" and "Compassionate" among the male participants, but not the female participants, as reported by Blanchard-Fields et al.

#### **GENDER TYPE DIFFERENCES**

Bem (1981) proposed that people who are categorized by the BSRI as Masculine or Feminine are gender-schematic in that they more readily process information on the basis of gender. They are different from the "Androgynous" and the "Undifferentiated" individuals who are non-gender-schematic according to Bem. This theoretical framework would predict the Masculine and the Feminine groups to be more similar in their meaning constructions of the items, at least in reference to sex related desirability, and they would be different from those constructed by the non-sex typed individuals. The current study did find seven items (five from the Femininity subscale and two from the Masculinity subscale) where the sex-typed participants stood out from the non-sex-typed individuals in their interpretations - where the non sex typed groups were similar, but the two sex-typed groups (i.e., the Masculine and the Feminine groups) were not similar to each other either. For other items, the meaning constructions of the four gender types were either different from one another or similar to each other. In other words, there were no systematic differences between the sex typed and non-sex typed groups in the way they interpreted items. Bem claimed that the Femininity and the Masculinity subscale items were chosen based on the informant's input on the socially defined, sex related desirable characteristics. The sex-typed participants in the current study did not reflect socially shared meanings as they interpret the items. Basically, the current study did not find patterns of information processing that are expected from Bem's theoretical proposal. A plausible explanation is that the participants did not frame the interpretation of the items

from the perspective of being a certain sex. In other words, "the gender connotations of the attributes" may not be salient for the participants (Bem, 1981). In future studies, it would be worth giving participants specific instructions to construct meanings in the context of being a male or being a female.

### **LIFE EXPERIENCES AND MEANING CONSTRUCTIONS**

When samples of factor analysis studies were not undergraduate students, such as married couples (Hiller & Philliber, 1985) or senior citizens (Windle & Sinnott, 1985), the resulting factor structures tended to be different from those extracted based on college students (Choi & Fuqua, 2003). This can be explained based on the current study's findings, where the older participants' interpretations of the items vary substantially from the undergraduate students' interpretations. If the self assessment is based on different views of an item, the self rating scores will not reflect the same or similar underlying construct and will muddy the picture the factor analysis is trying to present.

Additionally, the current study also noticed that events prior to test taking influenced the meaning constructions of certain items. For instance, student participants who were taking the same class would refer to the content of the class when interpreting an item. A campus demonstration related to abortion issues also surfaced in quite a few student participants' meaning constructions of the items "Defends own beliefs" and "Aggressive."

### **PARTICIPANTS' VIEW OF MASCULINITY AND FEMININITY**

A major criticism of the BSRI is the frequent reporting of a bipolar factor extracted mainly from the scorings of two items: "Masculine" and "Feminine." Such a factor is troublesome because it conveys a continuum with masculinity and femininity at the opposite poles, contradicting directly Bem's theoretical proposal that these two



constructs are independent and can co-exist in one individual. Findings from the current study clearly provided some insights to this paradox.

Participants' meaning constructions of "masculine" and "feminine" were apparently more diversified than what Bem had in mind. The current study observed that the meanings of these two items were constructed mostly based on participants' perceptions of what men and women are like or should be like. As such, they included physical features, personal appearance, interests and activities that were remotely related, if at all, to the sex roles or whatever psychological constructs the BSRI intended to measure. Half of the participants also explicitly stated that the two items "Masculine" and "Feminine" are antonyms, which means scoring high on one item would inevitably lead to a low score on the other, at least for those participants who claimed such a contrast. Therefore, it is apparent that the meanings of the two items "masculine" and "feminine," as interpreted by the participants, are not at all what Bem had in mind. This means that the bipolar factor extracted from the "Masculine" and "Feminine" items are reflecting participants' meaning construction of the two words, which are qualitatively different from the constructions of Bem.

## **CONCLUSIONS**

The current study demonstrated that test taking involves a process of interpretation and that multiple meanings can be constructed for a given item. The findings of current study also showed participants' life experiences, such as those organized by sex or changed by age, do play a role in participants' meaning constructions of the items. The same can be said of significant events that took place prior to test taking. Multiple meaning constructions and the influences of the social and cultural experiences of the test takers may provide some insights to the various, sometimes inconsistent factor analyses results reported over the past 30 years. The current study

suggests the selection of research participants with various social and cultural backgrounds may complicate the comparability of the self rating scores, and specifying context for the interpretation of items as ways to improve it.

#### **LIMITATIONS OF THE STUDY**

There are several limitations of the study.

Unlike the sample sizes of the male and female groups, the student and the adult groups, which were determined at the beginning of the study, the sample size of each gender type was the result of the participants' self-ratings on the BSRI. As a result, nine participants were categorized as being Androgynous based on their self-ratings on the BSRI, nine Feminine, and nine Masculine; thirteen participants were categorized as being Undifferentiated. These sample sizes were much smaller than the size of twenty in the other groups. The failure of the current study to observe the pattern of meaning constructions predicted by Bem's gender schema theory may be attributed to the small sample sizes, i.e., the sample sizes of the four gender type were not big enough for the pattern of differences to surface.

Secondly, the participants of the current study were quite educated. The average number of years of schooling of the current participants was 15.7 (SD = 1.56 years), almost equivalent to a college graduate. Whether the findings of the current study may be generalized to people with other education levels, such as high school graduates, remains to be researched.

Thirdly, the differences in meaning construction between the student and adult groups may be the result of different language learning and use from different generations, as opposed to the presumed differences in life experiences. How these two groups differ that would lead to the differences in their meaning construction deserve further investigation.

Lastly, as the analyses of the data involved interpretations of the participants' verbal text, the theoretical framework underpinning the current study would also apply in that process. In other words, it is potentially possible that a new reader reading the transcripts of participants' verbal reports may have different interpretations and identify additional or different sets of properties. It is also plausible that a new reader may organize these properties differently.

### **IMPLICATIONS FOR TEST CONSTRUCTIONS**

The use of adjectives to describe and categorize personality differences may be traced back to Francis Galton (1884), who applied the so called "lexical hypothesis" to the study of personality traits. Basically, the hypothesis maintains that individual differences relevant to our daily lives will be encoded into our languages or even become a single word, if the difference is salient and important. The reliance on adjectives to construct personality measurement was later made prominent by personality psychologists such as Allport (1936) and Cattell (1957) and continuously practiced. The BSRI was similarly constructed.

What these psychologists did not take into consideration, or considered as unimportant, were the individual differences in the "interpretive process" that a test taker brings to the testing, or more specifically, the individual differences in reading/interpreting the adjectives. Results from the current study clearly indicated such differences do exist. The current study also suggested, consistent with the socio-constructive view, that the social, cultural and psychological background of the test taker also played an important role in the construction of the meanings of a test item. The background could be as broad as the socio-cultural environment dictated by a person's sex, as general as the various life experiences accumulated through the process of aging, or it could be as specific as an event that happened before the testing.

Based on the findings of the current study, there are at least three implications for test construction using the "lexical hypothesis" approach:

(1) When adjectives or words are selected as test items, their meanings can not be taken for granted. Meanings constructed by the test takers when rating themselves (or others) must be examined during the test construction: Are the meanings constructed in accord with what the test is designed to measure? Are there social, cultural, or psychological factors that influence the interpretation in a systematic way? When various interpretations are observed, a strategy needs to be developed to guide the meaning constructions to better approximate the intent of the test. The findings from the current study suggest that specifying the context for interpretation may be such a strategy. For instance, most items in the feminine subscale were not interpreted as a feminine characteristic during the first phase of the study, yet quite a few of the femininity subscale items were cited as characteristics of femininity when the participants were asked specifically to describe their views on "being feminine." It appeared that when the context of "femininity" was provided, the participants' interpretations of the same items changed. Consistent with this speculation, Bem (1981) stated that individuals may interpret a masculine (or feminine) item without "implicating the concept of masculinity or femininity." Therefore, it appears that providing the context for reading a test item may be a reasonable strategy to give the test takers a better sense or direction for their meaning constructions, to rate themselves more in accordance with what the test was designed to measure, and to make the test scores more comparable among test takers.

Similar strategies may also be applied to survey questionnaires to facilitate the interpretations of survey questions more in line with the intent with the survey objective.

(2) Factor analysis is an important tool in the process of test construction, especially in the investigation of the construct validity of a test. This technique provides

the test developer a numerical or statistical foundation to describe in text or common language, what is being measured, i.e., the underlying construct(s). It thus would be highly desirable for the same score or number rated by two persons to reflect the same or similar underlying meaning. The current study indicated that meaning constructions of test items based on common language can vary widely. The meanings may be commonly shared, they may be rare or unique, or they can be misinterpretations. Rating scores based on such a variation of interpretations would be less likely to reflect the same underlying meaning, and consequently, complicates the test developer's interpretation or summarization of the factor analysis result(s) in text.

Findings from the current study also indicate that the test takers' meaning constructions of the test items can be qualitatively different as a result of their life experiences due to factors such as sex or age. This finding suggests that it would be beneficial to investigate group differences in item interpretations before the factor analysis is performed. If group differences are observed, factor analysis should be performed for each group. Otherwise, factor analysis results will be difficult to interpret as reflected by various BSRI factor analysis studies in which scores from both sexes, a wide range of participants' ages, and different social economic status were combined.

(3) When researchers disagree on what is being measured by an instrument, exploring respondents' meaning construction may provide information to help resolve the disagreement. For instance, while Bem insisted that the BSRI measures an individual's gender role orientation along two independent constructs, masculinity and femininity, Spence, one of the authors of the PAQ, persistently made the claim that the BSRI and PAQ are alike in that both only measure two specific clusters of gender differentiating personality traits. The meanings constructed by the respondents on the items of these two scales can be compared to the perceived measurement of the constructs claimed by the

test developers or critiques. For instance, do the respondents interpret BSRI items consistent with the interpretation of sex role orientation by Bem? Or do they interpret the BSRI items more along the line of personality traits as Spence viewed them? The constructed meanings for the items on each scale can also be compared for similarities and differences, which may facilitate the investigation of whether the two instruments are measuring the same constructs from the perspectives of the respondents.

## Appendices

## Appendix A

### Short Consent Form

#### **Reading Bem Sex Role Inventory Items: Exploring Respondents' Meaning Construction**

Conducted By: Ping F. Chu (Advisor: Dr. Ed Emmer)  
University of Texas at Austin *Department of Educational Psychology*; 478-5834/471-4155

IRB PROTOCOL # 2005-02-0101

You are being asked to participate in a research study. This form provides you with information about the study. Please read the information below and ask questions about anything you don't understand. Your participation is entirely voluntary and you can refuse to participate without any negative consequences. You can also stop your participation at any time by simply telling the researcher.

**The purpose of this study** is to explore how you, and 79 other participants, interpret the scale items when you complete the Bem Sex Role Inventory (BSRI).

**If you agree to be in this study, we will ask you to do the following things:**

- complete the BSRI (45 items);
- conduct "think-aloud" while completing 25 of the 45 items, the session will be audio-taped;
- participate in an interview, the session will be audio-taped;
- complete a general demographic survey (e.g., age, education, occupation).

**Total estimated time to participate** in study is about 1.5 hour.

**Risks and Benefits** of being in the study

- There is a slight risk involving the accidental loss of confidentiality.
- Some participants may find the process self-reflective.

**Confidentiality**

The audiotapes will be

- coded so that no personally identifying information is visible on them;
- kept in a secure place (e.g., a locked file cabinet in the investigator's office);
- heard or reviewed only for research purposes by the investigator and her advisors;
- erased after they are transcribed or coded.

The records of this study will be stored securely and kept private. Authorized persons from The University of Texas at Austin, members of the Institutional Review Board, and the dissertation advisors have the legal right to review your research records and will protect the **confidentiality** of those records to the extent permitted by law. All publications will exclude any information that will make it possible to identify you as a subject.

**Contacts and Questions:**

If you have any questions about the study please ask now. If you have questions later or want additional information, call the researchers conducting the study. Their names and phone numbers are at the top of this page.

If you have questions about your rights as a research participant, please contact Clarke A. Burnham, Ph.D., Chair, The University of Texas at Austin Institutional Review Board for the Protection of Human Subjects, (512) 232-4383.

***You will be given a copy of this information to keep for your records.***

**Statement of Consent:**

I have read the above information and have sufficient information to make a decision about participating in this study. I consent to participate in the study.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Signature of Investigator: \_\_\_\_\_

Date: \_\_\_\_\_



## **Appendix B**

Version 1 BSRI

Participant ID \_\_\_\_\_

1 \_\_\_\_\_

### Self-rating BSRI Items

**Please rate each of the following personal characteristics in terms of how well it describes you.** (This instruction is a modified version of the original BSRI instruction.)

	Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true
1. Self-reliant	1	2	3	4	5	6	7
2. .	1	2	3	4	5	6	7
.							
.							
<p>(Items from the original BSRI Femininity and Masculinity subscales that are not included in the short form BSRI are listed here for self-rating. Only two items are displayed here due to the BSRI copyright restriction. Readers interested in the instrument should contact Mind Garden Inc. at <a href="http://www.mindgarden.com">www.mindgarden.com</a>)</p>							
.							
.							
20. Does not use harsh language	1	2	3	4	5	6	7

## Think Aloud

For the next section, I need you to "think out loud" or verbalize what you are thinking as you read and respond to each item.

I am interested in your interpretation: **What does each item mean to you and how do you arrive at your response.**

Please verbalize **everything** in your head while you're reading and responding to each item.

Do you have any questions?

## Think-aloud practice item

Let's practice.

Please rate the following personal characteristics in terms of how well each item describes you. Remember to verbalize **everything** that comes to your head.

	Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true
<b>Curious</b>	1	2	3	4	5	6	7
<b>Talkative</b>	1	2	3	4	5	6	7

### Think-aloud BSRI Items

Please rate each of the following personal characteristics in terms of how well it describes you. **Remember to verbalize what you are thinking as you read and respond to each item.**

	Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true
1. Defends own beliefs	1	2	3	4	5	6	7
2. .	1	2	3	4	5	6	7
.							
.							

(Items from the short form BSRI Femininity and Masculinity subscales, and 5 items from the short form Social Desirability subscale are included here for self-rating and "think-aloud." The rest of the items are not displayed due to the BSRI copyright restriction. Readers interested in the instrument should contact Mind Garden Inc. at [www.mindgarden.com](http://www.mindgarden.com))

.							
.							
.							
25. Gentle	1	2	3	4	5	6	7

Now I would like for you to use **examples** to explain why you choose a certain number as your answer.

Let's practice.

For the item "Curious," use some examples to explain why you chose number \_\_\_ as your response.

	Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true
<b>Curious</b>	1	2	3	4	5	6	7

For the item "Talkative," use some examples to explain why you chose number \_\_\_ as your response.

<b>Talkative</b>	1	2	3	4	5	6	7
------------------	---	---	---	---	---	---	---

Do you have any questions?

Now let's go back to page 3 and do the same for each item.

**What does being masculine mean to you?**

(Can you give me some examples of what being masculine means to you and what not being masculine means to you?)

**What does being feminine mean to you?**

(Can you give me some examples of what being feminine means to you and what not being feminine means to you?)

## **Appendix C**

Version 2 BSRI

### Think Aloud

For the next section, I need you to "think out loud" or verbalize what you are thinking as you read and respond to each item.

I am interested in how you interpret each item: **What does each item mean to you and how do you arrive at your response.**

Please **verbalize everything in your head while you're reading and responding to each item.**

Do you have any questions?

### Think-aloud practice item

Let's practice.

Please rate the following personal characteristics in terms of how well each item describes you. Remember to **verbalize everything that comes to your head.**

	Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true
<b>Curious</b>	1	2	3	4	5	6	7
<b>Talkative</b>	1	2	3	4	5	6	7



### Think-aloud BSRI Items

Please rate each of the following personal characteristics in terms of how well it describes you. **Remember to verbalize what you are thinking as you read and respond to each item.**

	Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true
1. <b>Defends own beliefs</b>	1	2	3	4	5	6	7
2. .	1	2	3	4	5	6	7
.							
.							
.							

(Items from the short form BSRI Femininity and Masculinity subscales, and 5 items from the short form Social Desirability subscale are included here for self-rating and "think-aloud." The rest of the items are not displayed due to the BSRI copyright restriction. Readers interested in the instrument should contact Mind Garden Inc. at [www.mindgarden.com](http://www.mindgarden.com))

.							
.							
.							
25. <b>Gentle</b>	1	2	3	4	5	6	7

**Now I would like for you to use examples to explain what each item means to you.**

**For each item, think of some examples to explain what the item means to you.**

Let's practice.

For the item "Curious," give me some examples that would explain what "very curious" means to you and what "not very curious" means to you.

	Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true
<b>Curious</b>	1	2	3	4	5	6	7

For the item "Talkative," give me some examples that would explain what "very talkative" means to you and what "not very talkative" means to you.

<b>Talkative</b>	1	2	3	4	5	6	7
------------------	---	---	---	---	---	---	---

Do you have any questions?

Now let's go back to page 2 and do the same.

(Self-rating BSRI Items)

Please rate each of the following personal characteristics in terms of how well it describes you. (This instruction is a modified version of the original BSRI instruction.)

	Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true
1. Self-reliant	1	2	3	4	5	6	7
2. .	1	2	3	4	5	6	7
.							
.							
.							

(Items from the original BSRI Femininity and Masculinity subscales that are not included in the short form BSRI are listed here for self-rating. Only two items are displayed here due to the BSRI copyright restriction. Readers interested in the instrument should contact Mind Garden Inc. at [www.mindgarden.com](http://www.mindgarden.com))

- .
- .
- .
- .

20. Does not use harsh language	1	2	3	4	5	6	7
---------------------------------	---	---	---	---	---	---	---

**What does being masculine mean to you?**

(Can you give me some examples of what being masculine means to you and what not being masculine means to you?)

**What does being feminine mean to you?**

(Can you give me some examples of what being feminine means to you and what not being feminine means to you?)

## Appendix D

### Biographical Data Sheet

Participant ID: \_\_\_\_\_ Date: \_\_\_\_\_

Age: \_\_\_\_\_

Gender:  Male  Female

Marriage status:  Single  Married  Divorced  Widowed

Number of children: \_\_\_\_\_

Race:  Asian  Black  Caucasian  Hispanic

Years of schooling: \_\_\_\_\_

Highest Degree:  GED  
 High school diploma  
 Some college  
 Bachelor  
 Master  
 Doctoral

If attended college -

Majored in: \_\_\_\_\_

Occupation: \_\_\_\_\_

Religious affiliation:  Yes → what is your religion? \_\_\_\_\_  
 No

## **Appendix E**

Summary interpretations for  
"Affectionate," "Assertive," "Forceful,"  
and "Understanding"

			<b>Summary interpretations for "Affectionate"</b>
F*	F**	S***	"it means a loving feelings towards people in my life ... thinking of them in a loving way ... giving ... hugs, holding ... hands [to] show [love and care]"
M	F	S	"... like caring, like closeness ... boyfriend and girlfriend cuddling, always next to each other, holding hands, p.d.a. (public display of affection)".
F	F	S	"I'm very touchy-feely, especially with the people I like... walking arm in arm ... touch ... and run ... is correlated with boyfriend/girlfriend situation."
A	F	S	"how personal you are to somebody, how open you are to them ... can openly show your love for them ... touching and hugging ... tell each other [I love you]"
F	F	S	"... to get close to people, to show them how I feel ... [hugging, kissing, holding hands] ... telling [them] I love them in front of other people"
U	F	S	"I like to hug and let people know that I care about them ... someone very touchy, not afraid to express their emotions ... [a] physical act ... touching, kissing"
F	F	S	"... an emotional state ... by being really caring and compassionate ... using compliments"/someone who likes to verbalize or physically show their positive feelings"
A	F	S	"Someone that's caring or being touchy-feely ... like hugs or kisses ... touch people [when talking to you]"/men are less affectionate.
A	F	S	Being "comfortable with showing someone that [you] care for them in whatever form or fashion (e.g., to show sympathy, to greet with a hug, to offer help)"
M	F	S	"... touching and hugging ..always hugging and kissing ... saying [sweet things] ... outward portrayal of feelings [for people]"/"men seem less affectionate".
A	F	A	"Being warm and loving and nurturing ... cuddling, loving, nurturing and nourishing in every way ... hugging"/"it's something for family"
U	F	A	"... touchy feely - an overt physical act ... [touching people during conversation]"/"doing something nice for someone."
A	F	A	"I hug .. I show affection [physically] to people I really care about."
U	F	A	"Showing affection towards your loved ones, kissing, hugging, a pat on the back"/"You can be affectionate in terms of words and friendly discussion without having the physical expression"
F	F	A	To "hug ... physically loving [a person or an animal]"
F	F	A	"Someone who is [the] touching kind ... put their arms around people, rub people's hair"/"someone who's very sweet to people ... in a friendly way or in a loving way."
F	F	A	To "outwardly show affection toward somebody or an animal ... to hold hands ... to put [your] arm around [someone]"
U	F	A	"... caring ... a kind of emotion towards someone ... giving hugs and kisses or playing with their hair, giving massages, [to] send flowers ... cards."
A	F	A	"... expressive or ... demonstrative people [of their affection] ... hugging and kissing, telling [others] that you care, that you love them, that they're important"
U	F	A	"Somebody who 's able to show their feelings toward another person ... to not be embarrassed about kissing ... being able to physically show affection or to say things that are tender"
U	M	S	To display affection physically (e.g., touching, kissing) towards girlfriend or pets, privately or in public.
A	M	S	"... put my feelings out there and really express to [my girlfriend] that I do care and that I have a heart ... always touching each other [especially in public]."
M	M	S	"if I see something hurt or someone hurt, then I always go and help them ... to comfort [them]".
U	M	S	"It's like showing emotions ... being open emotionally ... in terms of love [to your] girlfriend ... not afraid to show [it] in public ... like holding hands"
M	M	S	"... touchy-feely ... that kind of stuff ... hugging ... [constant compliments]"
U	M	S	"... showing affection for someone [you love] ... to tell [that person] you love her ... hold her hand, hug her and kiss her"
M	M	S	"... be able to come out and tell [people your] feelings ... to kiss ... hug"
M	M	S	"How well you treat [a] person and how close you are to them ... [to] care about [a person or animals,] to feel for them and [to] help them out"
U	M	S	To show affection to family/close friends/dogs by physically touching them or calling them to see how they are.
A	M	S	Being "nice and caring, and touchy feely ... or lovey ... do small things (like sent flowers) being close" while dating someone.
A	M	A	"Touching people ... to speak in ways that you can't [with] words ... to hug or to tell [loved ones] that [you love them]"/Not appropriate to do this in the office.
M	M	A	"I'm caring and giving, as well as physically. I find no issues of hugging and touching other folks in a nonsexual way. ... telling [them] how great it is to see them. "

M	M	A	"... a touchy-feely person ... showing affection outwardly by kissing and hugging .... [even] people that are not real close to them. "
F	M	A	"I equate hugs with affectionate ... petting your pets [or spouse] and spend time with [them] ... more physical contact plus an attitude of empathy or tenderness ..."
M	M	A	Romantically, "kissing ... [sitting next to each other or physically close]"/"in general public - talking to people, engaging in ... friendly conversation"
U	M	A	"Showing warmth and love for others or other living things," including responding to their needs.
F	M	A	"Expressing affection ... not just [physically], doing things for other people, showing pleasure ... appreciating what people do for you."
U	M	A	"Willing to show affection ... hug and kiss ... even [strangers]"
U	M	A	"Personable on a physical sense ... comfortable with hugging ... or show signs of affection ... in public"
U	M	A	"Lovey-dovey, likes to hug people ... sentimental [towards] pets ...likes to feel connected to people and enjoy being with people .. people who touch [and] hug a lot ... it's societal and cultural"

\* Gender type: A - Androgynous; F - Feminine; M - Masculine; U - Undifferentiated

\*\* Sex: F - Female; M - Male

\*\*\* Student-Adult: S - Student; A - Adult



			Summary interpretation for "Assertive"
F*	F**	S***	"... someone who can take the lead or who can make sure whatever [he is] saying is ... being followed"/to "not allow anyone to ignore my [opinions]"
M	F	S	"it's like having your way thing, you want to get your point across ... a very independent person, very strong willed person ... a leadership quality ... telling people what to do"
F	F	S	"If somebody does something to make me mad, I am going to tell them ... I see assertive as kind of being bold ... very strong, strong willed ... a boss kind of thing."
A	F	S	(misinterpretation) "how attentive you are [when] someone is talking to you ... are you listening, are you understanding, are you responding?"
F	F	S	To feel "Ok speaking up even if it is contrary to popular beliefs ... being able to stand your own ground"
U	F	S	To "make sure that [things that have to get done] do get done ... someone who let people know things without holding back ... responsible ... bossy ... taking initiatives"
F	F	S	"somebody who's very direct and says what they mean or ... think and is not cowardly ... doesn't consult other people ... seek their advice ... adamant about having their way"
A	F	S	"you go get ... something you want ... persistently ... or do whatever [you] have to to get it"/"someone who speaks their mind ... and express how [they] feel"
A	F	S	"Having the drive ... [to] go for what I want ... if it's something that I really want then I'll do whatever I have to ... to get it."
M	F	S	"someone who makes sure they get what they want"/someone who "wants things her way ... doesn't want anyone challenging [her ] authority."
A	F	A	To "stretch beyond this limit [i.e., obedient] that was established for [you] ... I stand up for myself" ... to speak up for what you feel and want
U	F	A	"putting my ideas out there"/To "come into a room ... [and giving] orders ... saying this is the way it's going to be."
A	F	A	To "tell people how [you] feel about things ... [to not] let people take advantage of you ... do it in a tactful way ... getting your message across"
U	F	A	"Assertive is a way of expressing your viewpoint without being offensive."
F	F	A	"... going forward with actions ... make the effort to do what I think I should do or what I want to do"
F	F	A	" ... independent ... know what you need to do ... not shy ... not afraid to open up and [take actions] ... [take] the initiative [to do things]"
F	F	A	"Assertive people have a sense of ... what's right and wrong and they're going to do everything they can to make it right for them"
U	F	A	" ... to make that extra effort to get what [you] want"/To get what you want with logical presentation.
A	F	A	"... to try and get my way because ... I am right ... to go and do what I [decide] to get done"/to feel comfortable with own decisions and not afraid to tell people.
U	F	A	"I speak my mind, I'm very direct ... and clear about when something needs to be done ... willing to stand up [and disagree with my boss] and explain why I don't agree"
U	M	S	"... how well I voice my opinion"/to "take a stance and voice my opinion"
A	M	S	"... not afraid to express themselves ... will let people know what they think ... on everything."
M	M	S	"Being able to voice your opinion whenever it's needed."
U	M	S	"to say [things] in a pretty full voice ... in a very strong way ... being tough ... confident ... just not being afraid to say what [you] want to say"
M	M	S	"I like things done my way ... when I want them done, especially when I really believe in something ... with something I really want, I definitely go after it."
U	M	S	"... something that you really care about, then you're going to [take actions to get it done]."
M	M	S	" ... giving orders, being able to get your point across to another person"
M	M	S	"you're not afraid to speak up and just say how you feel, you don't just sit back and watch ... especially when it comes down to sex or [hushed] subject"
U	M	S	"I tell [people] what I think ... argue [for my view] ... [resist peer pressure] when people confront me with things that I don't want to do."
A	M	S	Willing "to speak up for my desires ... and actively pursue it."
A	M	A	"... pressing my point or my opinion through some resistance ... driving and demanding ... unwilling to compromise"

M	M	A	To "formulate thoughts ... to think through a problem ... [and to] stand up and [speak up]... to not follow" when disagreeing with others' view or approach.
M	M	A	"You try to get your way ... to assert your will over people ... to make sure things happen ... [to] exercise behaviors to accomplish [your] will ... to obtain the results [you] want.
F	M	A	"willing to impose my will on ... people ... to make your position clear ... to get people to do what you want them to do ... taking a ... leadership role"
M	M	A	"Aggressiveness ... behavior towards goals ... you want [badly] ... pressing towards [meeting] a goal"a person who's speaking out or rebelling ... using forceful emotions"
U	M	A	"Forcing one's way upon others"/"not taking any crap ... [to stand up for your rights]"
F	M	A	"Push to get your way"/when "you're not happy with the way something is going ... you push or advocate your idea"/to voice, advocate your views on things
U	M	A	"To be "vocal about [ideas even when they're not popular]"/"Someone who ... is not afraid to share [his] opinions ... if meet with resistance ... will push back [with reasons]"
U	M	A	"You get what you want, take what you want, speaking up for what you want ... willing to say something ... different from what other people are saying ... willing to make decisions"
U	M	A	"Insist on "getting [your] point across, that somebody's paying attention ... has to win the argument, [to] get what you want ... not satisfied unless you do express yourself"

\* Gender type: A - Androgynous; F - Feminine; M - Masculine; U - Undifferentiated

\*\* Sex: F - Female; M - Male

\*\*\* Student-Adult: S - Student; A - Adult

			<b>Summary interpretations for "Forceful"</b>
F*	F**	S***	Insist others to believe one's opinion is right - "I'm always right"/insist others to do things for oneself or do things a certain way.
M	F	S	"Forcing people to go do something for me"/"... to get my ideas out ... to get my point across and ... to get my way"/"strong willed"
F	F	S	To insist people "to think your way or do things they don't necessarily want to do"/ making demands on people.
A	F	S	To "pressure people or things ... to have it your way"/"bossy" - to order people around.
F	F	S	"pushy ... intellectually or physically ... pushing something on someone [even knowing] they don't want it."
U	F	S	"pushy"/"making someone else do something against their will"/"use force against someone (e.g., rape)"
F	F	S	"coercive and ... manipulative ... pushy" to get people to do things/"someone insists on things ... forces you to say things you didn't want to say;"/physically -behaving in a rough or violent way.
A	F	S	Referring to information or a person that is "aggressive or vocal"/ "something or someone being in your face [about] what they think is right and wrong."
A	F	S	"Don't back down ... press forward to get what [one] wants"
M	F	S	"Someone who's pushy ... 'my way or no way' kind of thing"/to stand up for oneself by taking actions to correct a perceived unjust situation.
A	F	A	To "overcome the barrier .. people put there for you"/to stand up for oneself.
U	F	A	To "browbeat [others] to come over to my side on [an issue]"/to give orders or demands to people/to resort to people with power or authority.
A	F	A	"pushy or ... demanding" to get what one wants
U	F	A	"Physically forcing [one's] will on someone" (e.g., child abuse)/to make demands on others to do something.
F	F	A	To demand own self to behave or live a certain way/"to force [one's] thoughts and expectations on others"
F	F	A	"Someone who is up front, who is ... too loud, ... too in control," interrupts or talks over people/to make others behave certain way or do certain things.
F	F	A	Same as being assertive (Someone has a strong sense of right and wrong and not afraid to take action to make things "right.")
U	F	A	To be aggressive to get what one wants or to get people to behave certain way or do certain things.
A	F	A	"... to accomplish something ... to stand up for yourself" positively - to make the world a better place; negatively - self-interests - to have one's way.
U	F	A	"... [having] the final decision and [having it] their way"/assertive and vocal.
U	M	S	"manipulating things [or people] to get my way"/to not give in to others
A	M	S	To insist others "to do something against their will"/command others to perform with no room for negotiation/to express things in anger..
M	M	S	To "force my own opinions on someone else."
U	M	S	Making people do what they don't want to do;/to convince others of one's opinion.
M	M	S	"To get one's way"/"inflicting your beliefs on someone else/to push for things to happen (e.g., implementing one's idea).
U	M	S	"someone who pushes their beliefs ... disregard of other people's feelings and beliefs"/physically - agitated, rough, to act with physical force.
M	M	S	"... telling people what to do without ... thinking of their emotions"/To order people to do things.
M	M	S	To "push ... persuade and make people do things they don't want to do," including using physical force, and don't give up until it's done.
U	M	S	"a physical response ... physically imposing" "someone physically roughing up someone"/ being "adamant" about what one wants.
A	M	S	"to use force to get what [one] wants" "to exert one's influence or persuasion to get what [one] wants"

A	M	A	"Force your way through a situation"/Enforcing one's opinion - demanding one's way as the right way.
M	M	A	To "force [one's] ... thoughts, views, [beliefs] onto other people"/demanding others to hear and accept one's views/order people to behave certain way.
M	M	A	To "articulate one's position"/to "stand up to people [who disagree] with you, arguing with them to make them see your [view]"/"Not taking No for an answer, continue to pursue one's goal regardless of ... reaction ... from other people."
F	M	A	"Imposing [one's] will on others"/to argue by "yelling" or "with persuasive language and sound principles and ideas"
M	M	A	"... someone pushing someone or shoving someone ... usually associated with violence."/to force one's ideas on people/to tell people to do things.
U	M	A	"Forcing one's way on others" - dictating others to do things one's way.
F	M	A	" ... pushing for [one's] way ... unwilling to compromise"/"strongly advocating something"
U	M	A	" ... to fight for what you believe in, to voice your opinion"/"to push your point to get what you want."/someone in command and gives orders to others.
U	M	A	"Someone who gets their way ... may force his will on [others]" positive - having a good leader, negative - creating conflict.
U	M	A	To "go out of your way to get your way"/"to make sure that [one's] point of view gets heard ... to impose [one's] opinion on others," to make others agree.

\* Gender type: A - Androgynous; F - Feminine; M - Masculine; U - Undifferentiated

\*\* Sex: F - Female; M - Male

\*\*\* Student-Adult: S - Student; A - Adult

			<b>Summary interpretations for "Understanding"</b>
F*	F**	S***	"willing to see things from [other's] perspectives"/to understand what others are saying and "be receptive to their values, opinions"
M	F	S	"Knowing what's going on [with people] around you and avoid hurting them/not selfish/caring/feeling for others.
F	F	S	"to give people the benefit of doubt"/to not give people a hard time when they did something wrong to oneself/to accept when people change plans.
A	F	S	"to listen well and to grasp what people are telling you"/to know how people feel and what people need.
F	F	S	"to put yourself in other people's shoes and ... trying to experience it [yourself]"/to set own biases aside and share other's position/reaction/feelings.
U	F	S	Aware of people's "needs & problems and try to be there for them"/"open to hear people's problems"/accepting other's position/decision that is not what one wants..
F	F	S	"hearing [what] someone has to say ... [to set own feelings aside] to take their perspective and ... to [know and accept] why and how they're feeling/to know how the world/people work.
A	F	S	"someone who can look at ... things from different points of view"/"can relate to (understand) different things and situations"/know what's going on with people.
A	F	S	"to understand where someone else is coming from"/to know and accept people's reasoning
M	F	S	to set aside one's own point of view to understand other's, to know how they feel, to relate to their situation or experiences.
A	F	A	"To understand how a process works ... how things work "/to understand a personality type"
U	F	A	"to realize there's something more out there besides you"/to not jump into conclusion about why someone messed up.
A	F	A	"[tolerant] of other people's faults"/to look at things from their perspective"/to be flexible.
U	F	A	"to understand another person's point of view" to know and accept why they think a certain way/to know how things work/to learn a new concept.
F	F	A	"to think about what's involved in issues"/"to think through what may be going on with other people"/to take the time and effort to understand someone who's different from oneself, to see their viewpoint..
F	F	A	"someone who can understand other's feelings"/to realize people have limitations and to accept their failure/to know and be aware of what people need and to accommodate
F	F	A	"to see other people's point of view"/"to see [the problem] from [other's] point and help them find a solution"/to forgive when people messed up.
U	F	A	"be considerate of other people and their feelings"/"caring"/to accommodate or help.
A	F	A	To realize people hold different viewpoints, beliefs and values and to find out why.
U	F	A	"... listening ... acknowledging and [seeing] the logic of someone's feeling, opinion, or belief about something"/to gain knowledge from others to connect things/not necessary to accept..
U	M	S	To be aware and accept "other's feelings, emotions and thoughts as they go through certain situations"/to be aware "how own action would affect others."
A	M	S	To know "people have problems and need help ... what people are going through"/"to put oneself in the situation"/to analyze the situation and to help.
M	M	S	to know what people are going through for having experienced it oneself/to put oneself in other people's shoes.
U	M	S	to accept the situation when it is not what one wants.
M	M	S	"to listen to people ... to talk to people [about their problems]"
U	M	S	Able "to relate to someone in spite of [one's own] beliefs"/to be nice about it when people mess up.
M	M	S	"trying to think for another person and know what they're [saying]," where they're coming from/to comprehend a concept/to know somebody well.
M	M	S	"to listen to other people and understand why they feel [a certain] way" or do certain things"/to feel for people."
U	M	S	"to [be OK] when other people screw up"/to know why people are having a tough time and to help.

A	M	S	to listen to people and to know how and why they feel/think/act the way they do, for the purpose of conflict resolution or for communication.
A	M	A	"to understand people"/to investigate the situations to know why people act a certain way/to find out how things work (electrical, programming)
M	M	A	An intellectual thing/"listen to the other arguments and [see] where they're coming from ... the position they're in"/to have the right information to design a project to make it work.
M	M	A	"willing to see the other side of the coin"/to find out what the other person is thinking or feeling in a given situation/to be flexible about rules.
F	M	A	"empathetic"/"willing to listen to [other's] point of view and offer measured responses [or comfort them]... [as opposed to] jumping on their case"
M	M	A	"Knowledge of what's going on"/"To have knowledge of something [including people]. Insight to certain situations or ideas"
U	M	A	"Being aware of other's circumstances and their situations"/A person who [pays attention] to things going on and responds to the details of circumstances."
F	M	A	"See both sides or see more grey than black and white"/"accepting other people's points of view [or decisions] ... that might be different than your own."
U	M	A	"paying attention to ... other people's explanation of what they did" and take that into consideration for one's reactions.
U	M	A	"understanding others and how they feel about things or you're a smart person and you understand lots [of things]."
U	M	A	Cognitively - knowing the meaning and definition of things, how things work why people act certain way; emotionally - to forgive, to sympathize, to make someone feel better.

- \* Gender type: A - Androgynous; F - Feminine; M - Masculine; U - Undifferentiated
- \*\* Sex: F - Female; M - Male
- \*\*\* Student-Adult: S - Student; A - Adult

## **Appendix F**

Properties and Sub-properties for  
"Affectionate" and "Assertive"

## Affectionate

- Display affection physically  
To show affection through physical contact (e.g., hugging, touching);  
To show one cares by being touch-feely;  
To be touchy-feely;
- Display affection verbally  
To say "I love you;"  
To give lots of compliments;
- Being caring/loving/warm/compassionate/nice  
To be caring/loving/compassionate/warm/nice;  
To send letters/make phone calls/ask people how they are;  
To have loving feelings/thoughts toward people in one's life;
- Being close/open/personal to someone
- Showing emotions/feelings (i.e., affection/love, presumably)
- Being friendly through physical touch or words  
To be touchy-feely as a form of friendliness;  
To converse in a friendly way;
- Taking care of problems/needs  
Helping or comforting someone hurting/in trouble;  
Responding to the needs of one's children/spouse;
- Being warm/nurturing/nourishing/loving towards one's children
- Display of affection to one's romantic partner  
Hugging/kissing boyfriend/girlfriend or /holding hands/cuddling  
Being nice/sending flowers
- Showing affection physically/verbally to pets/animals
- Public display of affection
- Show one's sentiment/being lovey-dovey
- Acknowledge/appreciate what others did for you



## **Assertive**

- To be verbally expressive of one's feelings/opinions  
To express one's feelings;  
To present one's thoughts/opinions/ideas/solutions;  
To get one's point across;  
To be direct;
- To speak up without offending others
- To convey disapproval of others' behavior  
To express negative feeling toward the person causing it;  
To convey perceived wrong treatment towards self to the person(s) doing it;  
To criticize other's "wrong" behavior.
- To request actions from others to protect one's rights/interests  
To request change of undesirable behavior from others;  
To actively pursue compensation;
- To present one's view against perceived or potential resistance  
To present a different view/approach to an existing one;  
To present unpopular viewpoints;  
To not be afraid to talk about controversial issues;
- To speak with authority  
To persuade others;  
To speak in full voice;  
To speak with authority or confidence;
- To lead others  
To give orders to others;  
To make others conform or follow instructions;
- To have one's way/to go after what one wants  
Insisting of one's decision;  
Having one's way;  
Doing things one's way;  
Going after something one wants;
- To get things done  
Being responsible;  
Taking the initiatives;
- To get involved  
To participate activities;
- To demand attention and understanding from others

## **Appendix G**

Summary Interpretations for  
"Being Feminine" and "Being Masculine"

			Summary interpretation for "what does being feminine mean to you?"
F*	F**	S***	"someone who's very sensuous, attractive, good looking ... they dress up [in] bright pink ... flowery patterns ... very girly ... wear skirts ... put on nice perfume ... does not hang out with guys"
U	M	S	"flip side to ... being a male ... raising a child ... being gentle, tender ... always has make up on ... very concerned about appearance ... [what you wear]"
M	F	S	"[straight] men [who] like to look nice, get their nails done, do their hair ... pluck eyebrows ... putting on cologne, jewelry"/"very girly ... carries purse all the time, make up, skirts everyday ... giggles ... doesn't play any sports, does not work out [except] running"
A	M	S	"feminine means ... girls ... girly ... always need somebody there ... to talk to them, to be there ... they can't be alone ... to wear a dress ... to look sexy ... to take the time to look like a girl"
F	F	S	"being girly ... to get married and taking over the house"/"always wearing makeup, high heels ... dressing cute ... pedicure, manicures and massages ... love pink ... wear pink, wearing dresses ... like princesses"
A	F	S	"girls who constantly getting their hair done and their nails done ... makeup ... dress to impress, cook, clean and watch the kids ... they don't play sports"
F	F	S	"more motherly, more compassionate, to listen to others, to take the time to think about how others feel ... more emotional, being able to cry in front of others ... OK to show [hurt or] admitting a weakness ... physically weaker/"dressing up and always look nice and prissy, overly dramatic where the littlest things make you cry ... over analyzing situations ... sensitive to hygiene."
M	M	S	"you always care about how you look, caring about what people think about you and easily hurt, the opposite of masculine"/"girl] who is ditzy ... not [into] sports"
U	M	S	"like clothing and [personal] appearance ... girls with the long hair and the make up and a dress"/"guys who] like dealing with emotions"
M	M	S	"more sensitive, understanding, feeling oriented ... dependent of people ... crying ... wanting to talk about [hurt] feelings ... emotional"/"the way [the girls] dress, do their hair ... compassionate ... can listen to people and discuss [own] feelings"
U	M	S	"women ... are expected to be more emotional and ... more frail ... cry at movies ... afraid of bugs [and screams] ... OK to ask for directions ... use hair products and hair dryer ... sitting with leg crossed ... feminine is soft"
U	F	S	"very girly ... liking jewelry, shoes, shopping ... hangout with girlfriends and watching love movies ... taking pride in being a woman ... sensual [dress to have sex appeal] ... proud of [your body]"/"allow yourself to be held back ... motherly"
F	F	S	"liking shopping and makeup and dresses ... more nurturing, tender, and emotional ... enjoy emotional conversation, crying, showing sympathy, hugging ... spending 30 minutes fixing your hair"
M	M	S	"being a woman, opposite of being masculine ... having a more analytical ... side ... writing poetry and being more creative ... takes more thoughts into it ... putting on makeup ... caring and gentle ... thinking about other person's feelings before your own"
M	M	S	"sincere, sympathetic, [concerned] about how people feel ... go into more detail about things (e.g., what happened on a date) ... like shopping ... more concerned about [personal] appearance"
A	F	S	"girly ... not crude or vulgar ... soft in appearance or language ... sweeter smells"/"sensitive, dressed appropriately, emotionally sensitive, caring ... get feelings hurt easily ... color pink ... delicate and cautious"
A	F	S	"tender, gentle, compassionate, loving, [sympathetic], [like] things ... involve maternal instincts ... looking out for other people's well being ... can sense if something is wrong [with a person]"/"dainty, skirts, purses, shoes ... emotionally driven ... caught up in a lot of jealousy ... hard to be friends with"
M	F	S	"being dainty, spend a lot of time getting dressed ... to impress the guys ... submissive ... to support the [guys] ... to provide emotional support, being more caring and compassionate, empathetic ... very emotional ... cry easily ... talking on the phone all the time ... [likes to] hanging out with girlfriends"
U	M	S	"dollish ... delicate, handle with care ... [better dressed] skirts, hair ... symmetrical features ... soft spoken [voice] ... an ideal female ... desirable [female] ... proper ... decline to take part in something unruly ... nurturing"
A	M	S	"using emotions more than intellect ... able to relate to people better, manage relationships better, understand others' feelings better, more compassionate, gentle, kind, understanding, insightful, sympathetic, artistic, expressiveness ... less aggressive, less assertive"
A	M	A	"Feminine is caring ... sensitive to people, gentle, beautiful ... [decorate or arrange home to make them beautiful] ... purple and pink [colors] have a connotations of being feminine"
A	F	A	"Females work along side and give examples ... know the process involved ... including the people skills ... sensitive to how [people] get along in the process ... [the opposite is] being masculine ... just get it done ... not concerned about the [process and people]"
M	M	A	"Feminine means to be caring, nurturing, giving and motherly ... to be the motherly type of personality ... rearing the children, ensuring that environment for the children ... is a good environment"
M	M	A	"soft, nice, giver ... the less overtly dominant of the two [in a relationship], most women are pretty dominant, but ... they don't appear dominant ... able to finesse things, to act nice ... pretty ... love things ... take care of babies and raise them ... [sacrifice] for the children because you're the mother."
U	F	A	"Feminine is a sense of grace, a sense of style, not necessary in the clothing or looks, but in how [you] carry [yourself] ... the way [you] speak ... move ... can't [define] this from [family] roles because [both men and women have assumed both roles]"
F	M	A	"nurturing spiritually, emotionally and physically ... decorating ... holding [and comforting] a child ... teaching ... [positive encouragement] ... activities associated with sustaining and enriching life [are feminine] ... like eating, decorating, painting"

A	F	A	"[women] can't lift things [men] can ... has inner strength ... less calm [more emotional] ... [do house chores] ... women are real dependent on men [or somebody] ... [having the needs] to be a wife [or] a mother ... pretends [to be] weak ... not as brave as men"/ "like nice smelling colognes, jewelry, shoes"
U	F	A	"being sensitive, being aware of who you are, taking care of yourself, grooming and trying to dress nice ... comfortable with who you are ... your sexuality ... [being] a mother, being sensitive to others and others' feelings, nurturing ... opening to learning, reading ... doing what you can to make the world a better place ... looks like a woman"
M	M	A	"Feminine is associated with being a woman ... affectionate ... being submissive, dress up really fancy ... [or wear] a dress and high heels ... not aggressive, not dominant ... [nails and hair and] care about appearance"
F	F	A	A cultural concept/"like ying and yang, feminine is more yielding ... raising children ... nurturing ... teacher, care taker [of children]] ... [wearing more colors]"
F	F	A	"being softer ... [in some sense] being weak ... softer in appearance, lady like, [having] nice manners, not being crude or vulgar ... speaks softly ... dresses up, wears make up ... [does not] get angry at people [easily] ... does not drink a lot"
F	F	A	"being sentimental, having a good sense of style, wears dress ... working with children, [into] relationships ... listens to softer forms music"
U	F	A	"girly ... dress up a lot, do your hair, high heels ... makeup ... not smack on your gum, [talk a certain way] not cuss ... not loud"
A	F	A	"enjoying the frills and ruffles and quiet times, the garden and books and people ... liking to bake and cook ... making other people happy [providing] comfortable environment"
U	M	A	"being gentle, nurturing, charming, beautiful, more refined qualities ... being desirable in many ways ... as a mate, a companion, a lover, a confidant ... [such as] being loving, loyal"
U	F	A	"more nurturance ... attentiveness in personality ... able to read situations [regarding interpersonal interactions] and analyze those quickly ... wanting to be cuddled ... to be taken care of ... more submissive"/"more petty ... nagging, needy ... whining and complaining"
F	M	A	"more emotional, moody, physically [different], attractive, pretty ... more sensitive ... hold grudges longer than a male ... dressing female apparel ... more sympathetic, loving, nurturing, warm, caring ... [having] the female physical characteristics ... being a woman is being feminine"
U	M	A	"more emotional ... liking the softer things in life ... chick flicks ... flowers, being pampered, to get the manicure the pedicure, the day at the spa ... more compassionate"
U	M	A	"more of the way women would act ... traditionally ... s[they] care more about beauty ... [have] a keen interest in how they look or how things look"/"a guy ... [may] have feminine characteristics in the way he speaks ... walks ... dresses"/"wearing pink [with] matching purse, matching shoes"
U	M	A	"the quality of being connected in a community to people, even strangers ... more aware of the sentiment, feelings [and] to talk about them ... acting on the basis of emotions ... awareness and intent to look physically attractive ... taking care of [elderly, children], raising children ... more willing to help others ... teachers"

- \* Gender type: A - Androgynous; F - Feminine; M - Masculine; U - Undifferentiated
- \*\* Sex: F - Female; M - Male
- \*\*\* Student-Adult: S - Student; A - Adult

Summary Interpretations for "what does being masculine mean to you?"			
F*	F**	S***	"someone who's very aggressive ... like a man, not being girly ... like a tomboy"/very manly, athletic, aggressive, bold, courageous, like a leader person"/caretaker of a family, breadwinner,
U	M	S	"the alpha male ... very aggressive ... very touch"/"somebody who's always in the gym working out ... to get big muscle, chauvinistic ... always talking about ... male dominance or [being] male is better"
M	F	S	"physically masculine - very strong physically like the bodybuilders"/"the dominant one ... making all the decisions ... the leader ... that's the way I was taught ... the old fashion way"
A	M	S	"a lot of people think it's [being] strong ... to me it's ... [to] have control at times ... to have a backbone"
F	F	S	"being manly ... strong guys ... not meatheads, but strong willed ... not dominant ... but guys like to take charge ... take control of the situation ... to protect you"/[someone] takes care of himself ... like a man [not a baby] ... brave ... responsible"
A	F	S	"To be manly, to do things that aren't light and gentle ... like heavy sports, to do things [or work] that are [for] men [to do] like fixing cars [or] mowing the lawn ... those are manly things [that women shouldn't do]"/guys w/ lot of muscle, deep voice"
F	F	S	"being gruff, having a mustache ... being aggressive, brute ... not being able to cry, to show you're in a vulnerable situation"/"tall, really broad shoulders, bigger muscles, arms"/"going to the gym to build muscles ... wants to drive cars ... don't want to look weak"
M	M	S	"being really loud and sporty, works out a lot, not really care about how you look [or smell] or what people think ... wouldn't care about emotions"
U	M	S	"having characteristics and traits of what society depicts as being [masculine], somebody that works out, has a job, the breadwinner of a family, a businessman ... wears [suits]"
M	M	S	"athletic ... someone who's very strong [firm, steadfast] ... very independent ... can handle things on your own ... [to] put up the façade that you don't need people ... being aggressive ... fighting ... [wears] jeans [or] basic clothing ... not care how you look"
U	M	S	"not being feminine ... there is a set of actions or emotions and things that [society] expected of a woman, you take those away and what is left is what is expected of men [e.g.] liking cars/power tools, not care about [how you] look, not being emotional about things"
U	F	S	"[for a] girl to be considered masculine she would have characteristics that people would tie to a man ... athletics ... to burp eating lunch ... driving big trucks ... [wear clothes or drink alcohol that men wear or drink] ... rough and natural [don't] care how they look"
F	F	S	"in its stereotypical form, someone who's dominant, less gentle, does masculine things and has masculine interests like working on cars, also ... opening doors, buying dinner and being a helpful caretaker type, the provider ... physically strong"
M	M	S	"means being a man ... not crying, likes sports ... being honorable, able to be a leader, to provide for your family ... deep voice ... hair on your chest ... likes women ... defined by what you do as much as your characteristics"
M	M	S	"filling the gender role that men are supposed to have ... more assertive ... [speak up] more ... aren't very nice ... don't give in ... watching sports [and] drink beer ... running a company usually more aggressive"/drive big [or] fast cars"
A	F	S	"the way you [handle negative feelings] ... guys ... seem to be [more] getting things out [in the open] and ... don't bring it up anymore"/"a tomboy ... dress comfortably instead of girly ... being athletic ... muscular ... don't talk about feelings"
A	F	S	"doing things that a society usually attribute to behavior exhibited by men, like watching sports, working on cars, eating junk food, not ... reserved, not showing too many emotions, being career oriented ... [always talks about sports, cars, working out]"
M	F	S	"strong ... can take care of myself ... being a tough manly guy, big facial hair, don't ask for directions ... not emotional ... not into chit-chat ... watch ESPN ... not show affections ... talk in deep voice"
U	M	S	"someone w/ a beard, muscular ... harsh, rough and domineering ... a cowboy is quintessential masculine because he is dirty, rough, out of the wilderness and living the hard life, chewing tobacco, smoke ... wear a hat able to conquer physically demanding situations, hiding their fears and making other people feel more comfortable"
A	M	S	"being assertive, aggressive, competitive, self-reliant, independent, sure of oneself, make decisions quickly, being a leader, not showing much emotion, not moody ... providing protections/guidelines for females and loved ones ... rational ... make things happen"
A	M	A	"women and men can both be masculine ... [it's learned] ... muscles, force ... leadership, assertiveness, not gentle ... can pick up things, build buildings ... manipulate the world around"
A	F	A	"being very linear ... logical ... straight forward and aggressive, forceful, getting things done, commanding and demanding ... not having an idea, just do it ... bring things to the house that are yucky"
M	M	A	"Being male, the hunter, the [leader], being strong to accomplish tasks ... standing up for your responsibilities ... beliefs ... doing what you need to do ... to lead the responsibilities"
M	M	A	"dominant ... being a leader, not afraid ... argue for your point, forceful ... honest, reliable, truthful ... respecting women ... treating people with respect"/"being manly or being a man , not a boy [or] a bully ... breadwinner, protector"
U	F	A	"maleness ... sexy, a guy you can depend on, will take care of you ... warm and gentle ... protective ... someone you would run to if you needed protection ... physically [big and sexy]"
F	M	A	"willing to do dirty work, to get dirty ... the role [played by the male is] to go out into the world ... the defender and protector of life ... [physically] capable of engaging with the rough and tumble the world ... working with machines"
A	F	A	"tough, strong, physically strong ... secure [enough that] don't have to dominate ... to be a bully [or] to push ... [having] personal, physical, mental strength [that you can] trust [for protection]."
U	F	A	"Someone who is a man or who acts similar to a man ... in the way they walk ... talk and look ... kind of rough ... forceful"/"a [masculine] man does not have to hurt others or have to physically dominate others"
M	M	A	"taking on a dominant leadership role, camaraderie w/ other men ... leading your family in major decisions ... doing guy things like going hunting, fishing, sailing, lifting weights [that don't find women do]... aggressive [can sometimes be] violent"

<b>F</b>	<b>F</b>	<b>A</b>	"culturally and historically, masculine is more assertive ... more active, into the world, the breadwinner, hunter ... head of the family"/"Ideally, a man who's strong ... can go forward and do what needs done for himself and his family ... capable to really love and be vulnerable in a relationship"
<b>F</b>	<b>F</b>	<b>A</b>	"men are stronger than women ... I am very strong, I like things that men like (e.g., men's perfume, cars, action movies, clothes) ... does not mean I am manly, does not mean I am gay"/"A man who's comfortable being a man ... sure of himself, confident"
<b>F</b>	<b>F</b>	<b>A</b>	"physically muscular, stocky, extremely short hair, no make up, wear androgynous [clothes], no sexual aspects of women, knowledge of sports, play sports, watch sports on TV ... likes loud volume"/"masculine & feminine are opposite"
<b>U</b>	<b>F</b>	<b>A</b>	"tomboy ... [don't] like to dress up ... jeans and shirts ... play sports instead of planting flowers ... play w/ boys than girls ... rough not girly ... weightlifters, body building ... big muscles"
<b>A</b>	<b>F</b>	<b>A</b>	"A man [who] likes to hunt, fish, play in the dirt, likes blood, gore ... don't see [hunting] as killing an animal, they see it as sport ... likes football ... aggressive towards others ... like tractors & trucks ... beer & dirty jokes"
<b>U</b>	<b>M</b>	<b>A</b>	"to display the conventional traits of a man ... to protect, lead"/"being a father ... a husband ... to provide and protect the family ... make [final decisions] when there are issues"
<b>U</b>	<b>F</b>	<b>A</b>	"the care taker, the protector ... [to take charge in] a situation ... ability to be dominant [and] nurturing ... can fix [and build] things ... has [physical and emotional] strength, strong character"/"independent, self-reliant"
<b>F</b>	<b>M</b>	<b>A</b>	"not too emotional, self-reliant, logical, strong ... physically strong, courageous"/"being masculine is being a male sex"
<b>U</b>	<b>M</b>	<b>A</b>	"likes sports, like working on your own car, do work around the house ... you want to do it yourself, you want to fix things"
<b>U</b>	<b>M</b>	<b>A</b>	"Being what the society defines as the male role ... [traditionally] the one that goes to work, watches football, works on cars ... eat red meat ... play sports ... who fights and brawls and drinks ... [time has changed, the concept only exists in books/movies]"
<b>U</b>	<b>M</b>	<b>A</b>	"a person who's more aggressive, more dominating ... more rational"/"also means overt demonstration of power and authority ... somebody that organizes things to express power ... army and wars are fought by men mostly"

- \* Gender type: A - Androgynous; F - Feminine; M - Masculine; U - Undifferentiated
- \*\* Sex: F - Female; M - Male
- \*\*\* Student-Adult: S - Student; A - Adult

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