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The Relationship Between Sex-Typing and Help-Seeking Behaviors in Adults

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THE RELATIONSHIP BETWEEN SEX-TYPING AND HELP-SEEKING
BEHAVIORS IN ADULTS

By

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Bachelor of Science in Psychology and Sociology
George Fox University
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A thesis submitted in partial fulfillment
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ABSTRACT

The Relationship Between Sex-Typing and Help-Seeking Behaviors In Adults

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The process of expressing what is masculine promotes attitudes and behaviors that can discourage men from seeking help, contributing to numerous health issues in males. The purpose of this study was to explore how personally endorsed gender stereotypes vs. gender stereotyped attitudes impacted help-seeking behavior. In the current study, female and male adults completed challenging puzzle tasks, recalled previous health help-seeking behavior, and completed sex-typed measures. Females utilized personally endorsed gender stereotypes more during the puzzle tasks, while males utilized both personally endorsed gender stereotypes as well as gender stereotyped attitudes. When males recalled health-related events, however, personally endorsed feminine stereotypes predicted previous instances of help-seeking, suggesting a possible difference in the utilization of pathways during recalled vs. observable help-seeking behaviors. Findings demonstrated that personal and attitudinal pathways of gender stereotypes play distinct roles for males and females in predicting help-seeking behavior.

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CHAPTER 1

INTRODUCTION AND LITERATURE REVIEW

The ways in which males and females learn to behave and interact within society is the product of a complex developmental process in which males and females learn how to become masculine and feminine. Within the United States, each sex learns from a young age the rules and guidelines for acting and thinking in a certain manner that is deemed appropriate by society and peers; men are to be masculine, whereas women are to be feminine. The consequences of masculine and feminine expectations can be harmful for both sexes, particularly in the health domain for males. The process of expressing what is masculine promotes attitudes and behaviors that can discourage men from seeking help, contributing to numerous health issues (Courtenay, 1999, 2000). It may be that behaviors, attitudes, and stereotypes that begin developing in childhood, such as the social stigma for seeking help, contribute to the disparity found between men's and women's health in adulthood.

Sex-typing

A child may be born male or female, and almost as important as learning his or her own sex, is learning the roles that are assigned to that sex. Gender is one of the most obvious differences between individuals, leading children to begin learning about their society's gender-specific expectations as early as the first years of life (Biernat, 1991; Kohlberg, 1966; Martin & Ruble, 2009). Children begin to label themselves as either boys or girls by ages 2-3, in a process known as gender identification (Slaby & Frey, 1975; Thompson, 1975). As children establish an awareness of their own gender and the gender of other individuals (referred to as gender constancy), children become more

likely to attend to gender information (Biernat, 1991). This awareness, coupled with a capacity for categorization, results in children displaying basic gender stereotypes at around 3-years-old, and continues throughout development (Biernat, 1991; Signorella, Bigler & Liben, 1993).

The process described above, in which a society turns male and female into masculine and feminine, is known as sex-typing (Bem, 1981). Both sexes learn rules for how they should and should not behave. For example, boys and girls learn to desire occupations that society defines as a better fit for their gender. The implications for young males who begin learning these rules from a young age may include learning the appropriate toys to play with (e.g., trucks or dinosaurs), occupations to desire (e.g., police officer or mechanic), and traits to endorse (e.g., rough or messy). In adulthood, these rules become further endorsed and expressed through behaviors, traits, occupations, and cognitions, as well as many other ways throughout daily life (Courtenay 2000; Liben & Bigler, 2002; MacLean, Sweeting & Hunt, 2009; Williams & Best, 1990).

Sex-typing is a multi-component construction (Deaux & Lewis, 1984). To say a child or adult is strongly sex-typed, one must carefully distinguish what particular components or dimensions are being used to define sex-typedness. Components may include personality traits, attitudes, activities, behaviors, physical characteristics, and occupations, among others. Unfortunately, defining the components of sex-typing is generally tied to the methodology being used in the study (Biernat, 1991). The Bem Sex Role Inventory (BSRI), for example, primarily asks about individuals' personality traits (Bem, 1974), whereas the Sex Role Learning Index emphasizes activities (Edelbrock & Sugawara, 1978). In addition, the particular components in which individuals most strongly manifest their masculinity and femininity may change developmentally (Biernat,

1991). The meaning of what is masculine or feminine is likely to change as a child ages and encounters new cognitive and social experiences (Biernat, 1991). Thus, although a boy will eventually learn the appropriate masculine toys to play with, occupations to desire, and traits to endorse, the amount in which he emphasizes a strong masculine attitude towards those components may change with age.

The course of sex-typing is critical to understanding the development of gender and gender stereotypes. Studies propose that the process of sex-typing begins at about the same period gender stereotypes begin forming (2-3-years-old), and perhaps even earlier, and continues throughout the lifespan (Bigler & Liben, 2007; Martin & Ruble, 2010). Sex-typing is part of the larger developmental process of gender stereotypes that every individual partakes in, but it is a developmental story that researchers are still trying to understand.

Theoretical history. Sex-typing is a prominent feature in most contemporary theories, but has a long history in multiple developmental theories, that seek to explain how sex-appropriate characteristics and attitudes develop. Social learning theory (Bandura, 1977) and cognitive-developmental theory (Kitchner, 2009; Piaget, 1968), although contrasting theories, have greatly influenced the developmental and gender literature. Social learning theory emphasizes learning through observation and modeling, as well as through the rewards and punishments that children receive for sex-appropriate and sex-inappropriate behaviors (Bandura, 1977; Bem 1981; 1983). In contrast, cognitive-developmental theory focuses almost entirely on the ways in which children socialize themselves once they have labeled themselves as male or female (Kitchner, 2009; Piaget, 1968). When children perceive new information from their environment, they organize the information into cognitive structures related to gender. These theories

illuminate the importance of the process of sex-typing, although the answers to how this process unfolds throughout development remains unclear.

Another approach to understanding the development of sex-typing is gender schema theory (Bem, 1981; Markus, Crane, Bernstein & Siladi, 1982; Signorella & Frieze, 2008). The basic unit of gender schema theory is the schema. A schema is an anticipatory process, a cognitive structure that guides information processing and experiences, regulates behavior, and provides the basis for making inferences and interpretations (Martin & Halverson, 1981). Consider the example of a boy deciding which toys in a room to play with. Because the boy has a readiness to sort information on the basis of gender, he will first ask himself what toys are self-relevant. If the boy picks up a truck, he will first ask himself (although not at a conscious level), “is this toy for boys?” The boy will then subconsciously decide, “trucks are for boys,” and that “I am a boy,” thus “trucks are for me.” Moreover, gender schema theory involves the child spontaneously sorting persons, attributes, and behaviors into masculine and feminine, regardless of other differences that may exist. For example, a child may spontaneously label “sweet” and “cute” as feminine items, and label items such as “brave” and “strong” as masculine. Perception is thus proposed as a constructive process during which an individual’s pre-existing schema interacts with incoming information (Bem, 1984).

Like social learning theory, gender schema theory proposes that sex-typing is in fact learned and influenced by a child’s environment (Bem, 1981). Gender schema theory, however, also recognizes that cognitive processes (such as cognitive schemas related to gender) mediate sex-typing. A child will assimilate new information from the environment within a gender schema, and that child’s gender schema will also influence future interactions with his/her environment. For example, a child will categorize a new

toy as for boys or for girls, fitting within a gender schema, and mediating future encounters with similar toys. Thus, gender schema theory borrows from both social learning theory and cognitive-developmental theory, and theorizes that sex-typing is a result of a child's readiness to process information on the basis of sex-linked associations (Bem, 1984; Martin & Halverson, 1981).

Gender schema theory offers a structure that allows for an interaction between a child's cognitive processes and social and environmental forces in explaining the development of stereotypes and prejudices. This theory and other theories found in the developmental literature, however, struggle to account for why the dimension of gender is more salient than other dimensions (e.g., eye color, handedness). Additionally, most theories provide little to the discussion of whether these stereotypes can be modified, or if gender stereotyping is inevitable.

Developmental intergroup theory. A more recently proposed theory, developmental intergroup theory (DIT), addresses many of the gaps found in previous models. DIT proposes a model that accounts for the origin and development of sex-typing and gender stereotypes (Bigler & Liben, 2007). Based on empirical research that deals primarily with novel social groups, DIT proposes three core processes that are hypothesized to contribute to the formation of social stereotyping (Bigler & Liben, 2007). The first process is the establishment of psychologically salient person attributes (EPS). Various factors, such as group size (the majority or minority in a specific environment), explicit labeling (signs or labels), implicit use (everyday language and interactions with individuals), and perceptual discriminability (physical characteristics), influence the saliency of a particular dimension and cause certain attributes to become more important or prominent than other attributes. For example, physical features of men and women,

clearly marked labels (e.g., different restrooms for each sex), and differences in the use of language to refer to men and women (e.g., different pronouns), all increase the saliency of the differences between genders in some way or another.

The next step in the model is the categorization of encountered individuals by salient dimensions (CEI). This process in the model simply states that, based on the child's classification skill and environmental experience, a child will classify encountered individuals into groups using the dimensions that are psychologically salient. Finally, the result is the development of stereotypes and prejudices concerning those groups that are considered salient (DSP). Key factors such as cognitive and affective motivation, and influences from the environment, are hypothesized to result in the process of attaching meaning to social groups in the form of belief and affect (Bigler & Liben, 2007).

Environmental factors in both of these steps may include cultural influences as well as personal experiences and interactions within the environment. Unlike other proposed models found in the developmental literature, DIT is unique in that it is a constructivist process that incorporates all facets of cognitive and social learning. Particularly important is the emphasis on why some dimensions may become more salient than others. DIT may be extremely beneficial in providing a framework to investigate the early development of gender stereotypes, as well as the maintenance and activation of stereotypes in adulthood. The model fits well with other proposed pathways that may help researchers better study this process.

Developmental Pathways

Gender schema theory and DIT provide an inimitable foundation for the general process of sex-typing and the overall development of stereotypes, but individuals bring to any situation varying individual differences. Numerous factors, varying from individual

differences in age or sex to how gender schematic the person may be, affect how the individual organizes and interacts with the world. If an individual endorses certain gender stereotypes about his/her environment, that person may be more likely to hold attitudes towards others that are consistent with those gender stereotypes. For example, if a boy believes he should not cry in public, he may ostracize other boys who cry in class or on the playground. Conversely, attitudes held by others may influence a person's own endorsed stereotypes. Boys who have been ostracized for their outward expression of emotions may begin to adopt the rule that boys should keep their emotions in check. Research has demonstrated the individuals' endorsement and attitudes, or pathways toward gender stereotypes vary by age and by sex (Lobel, Gewirtz, Pras, Shoeshine-Rokach & Ginton, 1999). Thus, the developmental pathways through which sex-typing of the self and sex-typing of others is formed should influence how stereotypes emerge and change during childhood and adulthood (Liben & Bigler, 2002).

Despite theoretical differences, nearly all researchers agree that the child plays some kind of role in the assimilation of gender stereotypes (Liben & Bigler, 2002). The dominating developmental pathway in literature within the past two decades has been an *other-to-self* pathway, in which the individual's beliefs about others play a primary role in determining the individual's gender identity (Liben & Bigler, 2002; Martin & Halverson, 1981). Martin and Halverson proposed one such model in which the gender relevance of a particular object, person, or event (OPE) primarily determined an approach or avoid response. This model has been widely emphasized in most constructivist models for both implicit and explicit explanations of gender stereotyping (Bussey & Bandura, 1992; Martin & Halverson, 1981), but it is not the only pathway that has been proposed.

Liben and Bigler (2002) proposed two distinct (but not independent) developmental pathways that help account for the sex-typing of the self and of others. The first pathway is largely based on Martin and Halverson's (1981) earlier *other-to-self* model, and is referred to as the *attitudinal pathway*. This pathway proposes that gender stereotypes about others play a causal role in shaping the individual's own endorsement of stereotypes. The second pathway is a *self-to-other* pathway, and is referred to as the *personal pathway*. The difference in this pathway from the *other-to-self* pathway is that the individual established an interest in the OPE through personal experience, before gender stereotypes become personally endorsed and could influence the individual's participation.

Although the differences between these pathways may be emphasized, the pathways are not exclusive. In fact, both pathways may play an interacting role in sex-typing. A particular pathway, however, may operate more prominently at different points in development, at different ages, and in different contexts (Liben & Bigler, 2002; Maccoby, 1990). Research identifying particular ages and contexts in which sex-typing pathways become active and are influential has been limited. Emphasis has been placed on the peer groups of children, where they first begin to discover sex-differences (Maccoby, 1990). For instance, boys begin learning the compatibility of same-sex peers, as well as the roles within a male hierarchy (Maccoby, 1990).

Because of differences between the sexes in the development of personal sex-typing and attitudes, particular pathways may also vary more strongly by sex. Boys, for example, may be more inclined to activate the attitudinal pathway as a result of the strong social pressures on boys compared to girls. Social "rules" for boys can be more rigorous than for girls in defining what is or is not appropriate; and the consequences for breaking

the “rules” are more severe for boys, as well (Courtenay, 2000; MacLean et al., 2010; Nobis & Sanden, 2008). It may be that the exclusion and ridicule from peers and society is a strong imposition for boys, creating more reliance on the attitudinal pathway due to the pressure put on them. Social context may influence the activation of the pathways, as well (Liben & Bigler, 2002). A tall and athletic woman may be more likely to activate the personal pathway when participating on a female sports team, but may activate the attitudinal pathway when participating in sports with predominantly athletic men. Each one of the pathways has key differences that affect the development of stereotypes. The following sections will explore in more detail how these pathways influence an individual’s interactions with his/her environment.

Attitudinal pathway. In this other-to-self model, attitudes about others play a causal role in shaping the individual’s own behavior or engagement with a particular OPE (Liben & Bigler, 2002; Martin & Halverson, 1981). An OPE triggers the individual’s gender salience filter (see Appendix E). The outcome of the gender salience filtration process depends on whether an individual is gender schematic or gender aschematic. If the person is gender schematic, the gender schema filter is then activated. But if the person is gender aschematic, the *gender salience filter* is activated. It is the individual’s *gender schema filter* that determines who (boys/men or girls/women) the individual believes the OPE is for. If the individual excludes the OPE based on gender, it is avoided. If the individual includes the OPE based on gender, then it progresses to the interest filter (Is OPE of interest to me?). If the OPE is of interest, then the person engages with the OPE, and moreover, it increases the person’s interest and likelihood of further encounters with the OPE (Liben & Bigler, 2002). In this model, the individual’s

engagement with an OPE is primarily driven by the individual's gender schema, and behavioral engagement is unlikely to change sex-typed attitudes.

An example of this pathway is a young girl who encounters a new sport (soccer). Assuming she is gender schematic, and based on pre-existing gender schema, the girl will assess whether she believes soccer is for girls only, boys only, or for both boys and girls. If she has learned that "rough play" is a male quality, she may conclude that like the other rough play, soccer is for boys only. The girl will then avoid the sport. If, however, she has learned that all games are for both boys and girls, or has seen other girls playing similar games, she may conclude that soccer is for both boys and girls, and she will decide it is appropriate for her to play. The more that she continues to be reinforced that soccer is appropriate for both boys and girls, and continues to remain interested in the sport, her engagement with soccer will continue.

Personal pathway. In this self-to-other model, an individual's own qualities and behaviors play the primary role in shaping the individual's gender attitudes about others (Liben & Bigler, 2002). Unlike the attitudinal pathway, it is the person's interests that play a determining factor in whether the individual engages with the OPE (see Appendix F). When encountering an OPE via the personal pathway, the interest filter is first activated: Is OPE of interest to me? If yes, then the individual will engage with the OPE. After engaging, the mere act of engagement will reinforce or revise the person's attitude that "I engaged in OPE, therefore OPE is for males or both males and females (including me)." The gender schema filter (who do I believe the OPE is for?) is then reinforced (Liben & Bigler, 2002). Additional research suggests that individuals, particularly in childhood, tend to project their own preferences to others on the basis of sex (Martin, Eisenbud, & Rose, 1995).

An example of the personal pathway model is a young boy who becomes interested in ballet and begins to take ballet classes. If the boy is gender schematic (he uses gender to interpret experiences) and if he had not already experienced attitudes about the gender appropriateness of ballet, his very involvement in ballet would lead him to conclude that ballet is for boys. If instead he had first been exposed to gender attitudes about ballet being appropriate only for girls, his new interest and involvement in ballet might drive him to revise his gender attitude about ballet (Liben & Bigler, 2002).

The *gender schema filter* is assumed to account for how environmental factors (e.g., history of exposure) and organismic factors (e.g., cognitive abilities) affect OPE interest (Liben & Bigler, 2002). To highlight the differences between these two pathways, consider the example of a boy deciding whether to participate in ballet. If the boy has been exposed to gender stereotypes about ballet, such that it is only for girls, he will approach the activity through the *attitudinal pathway*, and the boy will most likely activate gender schemata towards ballet. In contrast, if the boy is skilled at ballet and enjoys it, or has been taught the activity is for both boys and girls, he will most likely approach the activity through the *personal pathway*. As the child continues development through adolescence and adulthood, the various pathways will continue to strengthen his sex-typed or egalitarian attitude towards ballet.

Utilizing the pathway models. As the pathways demonstrate, experience plays a crucial role in determining what pathway the individual utilizes. The attitudinal pathway is activated when individuals do not have personal experience (or at least positive experience) with an OPE. Under the attitudinal pathway, the individual relies on gender stereotypes to guide their decision-making. In contrast, the personal pathway is activated

when individuals have some experience (presumably positive) with the OPE. It is those experiences that help guide the individual in their decision-making.

The pathway models do not try to account for the origin of sex-typed attitudes. Instead, the pathway models assume that there has already been considerable development of an individual's attitudes and self-related experiences (Liben & Bigler, 2002). DIT explores the origins of sex-typed attitudes, whereas the pathway models provide a hypothesis as to how an individual comes to reinforce or revise his/her attitudes about the self and about others. Paired together, DIT and the pathway models help tell a convincing story of the development and activation of gender stereotypes.

Measuring Sex-Typed Attitudes and Personal Interests

In order to better understand an individual's sex-typed attitudes about him/herself and about others, researchers need a methodology that accurately and reliably measures these domains. Historically, there has been little agreement on how sex-typing is defined within measurements (for a review of methodological issues in sex-typing measurements, see Bigler, 1997; Downs & Langlois, 1988). Because many gender-constructs have been identified, hundreds of measures examining these constructs have been created (Beere, 1990; Bigler, 1997). The definition of sex-typing is often tied to the measurements being used in a study, and therefore the definition of sex-typing may differ from one study to the next. Whereas a measurement may be tapping into a particular domain, such as *knowledge* in one study, a different study may be tapping into an entirely different component of sex-typing, such as *attitudes*. Unidimensional measures of sex-typing that tap into only one domain, however, such as the It Scale For Children (ISFC) and the Draw-a-Person-Test (DAP), weakly correlate with one another (Downs & Langlois, 1988). This low correlation suggests that sex-typing is a multidimensional phenomenon,

as many researchers argue (e.g., Downs & Langlois, 1988; Liben & Bigler, 2002), or that these measures are not adequately tapping a single process. If measurements of sex-typing are to be valid and reliable, caution must be made when choosing a measure that appropriately addresses the research questions being raised.

A common measure is the Sex Role Learning Index (SERLI; Edelbrock & Sugawara, 1978). In this measure, respondents rank order personal preferences for traditionally masculine/feminine activities and/or occupations. This measure demonstrates a design that asks the individual his/her own personal endorsement of the items (sex-typing of the self). In contrast, a measure that asks questions such as “Who should...” or “Who likes...?” (e.g., the Traditional Egalitarian Sex Role [TESR] scale), taps into the attitudes of the individual (sex-typing of others). Moreover, measures that tap into attitudes can further be broken down into *knowledge* of gender stereotypes and *personal attitudes* towards these gender stereotypes (Bigler, 1997). An individual may have the knowledge of a societal gender stereotype that males don’t cry, but that does not necessarily mean the individual holds that attitude about crying towards others. It is important to differentiate between an individual having knowledge of cultural stereotypes, as opposed to an individual personally endorsing stereotypes. Knowledge of gender stereotypes may not predict personal sex-typing, particularly because early in childhood and through most of development, knowledge of gender stereotypes is near ceiling levels (Liben & Bigler, 2002; Signorella et al., 1993).

Generalizability to the larger population and the ability to compare across measures are necessary to advance an understanding of gender stereotypes. To address these concerns, Liben and Bigler (2002) proposed a new scale to measure sex-typing of the self and others. Unlike previous scales (e.g., the Attitudes Toward Women Scales for

Adolescents, Galambos, Peterson, Richards, & Gitelson, 1985; the Gender Attitudes Scale for Children, Signorella & Liben, 1985; the Sex Role Learning Index. SERLI; Edelbrock & Sugawara, 1978), these measures were designed specifically to address the lack of cohesion found in sex-typing literature.

One concern Liben and Bigler (2002) raised was in regard to the actual domain that a scale measured (e.g., occupations, play, work, etc). Measures, which may be too broad or too narrow in the amount of domains being tapped into, can result in undetectable sex-typing of the self and others. For example, a measure may not be able to detect a relationship between gender stereotyping of occupations and sex-typing of the self when it incorporates a wide range of domains as predictors (i.e., behaviors, beliefs, roles). Furthermore, whereas one measure may more heavily tap one construct (e.g., personality traits, attitudes, activities), another measure may emphasize an entirely different construct, causing difficulties in accurately comparing the two measures.

Comparing measures becomes even more difficult when taking a developmental approach, and attempting to bridge children's data with adults' data. Commonly used adult measures and child measures have a tendency to focus on different constructs (Biernat, 1991). For example, the SERLI (Edelbrock & Sugawara, 1978) and ISFC (Brown, 1956) tend to emphasize the *activities* of the child, whereas the BSRI (Bem, 1974) and the Personal Attributes Questionnaire (PAQ; Spence, Helmreich & Stapp, 1974) primarily emphasize *personality traits* of adults.

An additional concern is the degree to which items are viewed as desirable by society's standards. Often individuals view masculine items as more pleasant than feminine items. For example, in the SERLI (Edelbrock & Sugawara, 1978), masculine items include activities such as baseball, car play, and hammering, whereas feminine

items include activities such as sweeping, washing dishes, and sewing. The chore-like nature of the feminine items leads them to be less desirable than the masculine activities, thereby making the sex-type of the items confounded with desirability (Liben & Bigler, 2002).

These unforeseen and often overlooked weaknesses of measurements have been debated in the literature (Hort, Leinbach, and Fagot, 1991) and may compromise the conclusions of studies. The scales by Liben and Bigler (2002) were specifically designed to address the major weaknesses identified within the current literature. Liben and Bigler's (2002) scales all include format and content designed to assess (a) sex-typed attitudes towards others (attitude measures or AM) and (b) sex-typing of the self (personal measures or PM). Within each scale are three primary domains: occupations, activities, and traits (OAT).

The ability to utilize just one scale across numerous age groups is a powerful instrument in analyzing the trajectory of gender development. As such, Liben and Bigler (2002) developed age appropriate versions of their scale for elementary school aged children (COAT-AM/PM) and preschool age children (POAT-AM/PM). Age appropriate items for children include activities (e.g., play video games and bake cookies) and occupations (e.g., police officer and baby-sitter), that have been rated as more familiar to elementary age children. Because they designed these scales in response to the weaknesses identified in the sex-typing literature, they are optimal for future research in developmental gender studies. Multiple studies have demonstrated the usefulness and reliability of the POAT and COAT measures (Arthur, Bigler & Ruble, 2009; Friedman, Leaper & Bigler, 2007; Hilliard & Liben, 2010).

Because the OAT scales target sex-typing of the self and sex-typing of others, the scales lend themselves nicely to the personal pathway models proposed by Liben and Bigler (2002). Not only do these scales unify the variability found in current measurements, but they also incorporate a theoretical framework that encourages a cohesive and organized approach to studying gender attitudes and stereotypes. Integration of these measures into developmental research could lend to more concise methods, designs, and approaches when attempting intervention or modification studies. Based on preliminary data from the OAT scales, Liben and Bigler suggest that attitudinal schemata are distinct from sex-typed self-characteristics. Changes in an individual's attitudes concerning others may therefore not affect an individual's sex-typed beliefs or behaviors concerning the self. Their data do suggest, however, that interventions motivated by the inverse (personal) pathway might be effective at modifying stereotypes, at least among males (Liben & Bigler, 2002). For example, encouraging young boys to incorporate traditionally feminine traits, such as being affectionate and gentle, might have the long-term consequence of increasing their later tolerance for nontraditional behaviors in others into adulthood (Liben & Bigler, 2002). It is unclear, however, how these distinct pathways may influence sex-typed behaviors in adults. It will be important to first understand if these pathways interact with an individual's behaviors and/or attitudes in adulthood, and if any sex differences exist.

The development of gender stereotypes is a complex interaction between the child and the environment. It is a story that starts very early in childhood, perhaps even as young as age 2 (Bigler, 1997), as males and females begin learning what it means to be masculine or feminine. In adulthood, individuals partake in a myriad of everyday activities and behaviors that have become sex-typed over the course of development.

Multiple theories have attempted to account for sex-typing (see Bem, 1981; Kitchner, 2009; Martin & Halverson, 1981), but DIT – paired with Liben and Bigler’s (2002) pathway models – accounts for the development and maintenance of gender stereotypes, emphasizes a multidimensional model of sex-typing, and focuses on the person’s active role in his/her environment. These models provide a clearer framework regarding how a person becomes masculine and feminine than what has been offered in the past, contributing to a better understanding of sex-typing in adults. More specifically, this framework may explicate how sex-typing influences males’ behaviors, particularly those related to health.

Men’s Health

The link between stereotypes and health has become an emergent area of research within the past decade (Whorley & Addis, 2006). Actual sex differences in health consistently show a disparity in higher mortality rates (pace of death) for men than women, and higher health service utilization for women than men (Verbrugge, 1985). This discrepancy has been occurring since most medical records and health statistics have been available, and shows no signs of improving. In the last 35 years, men’s cancer death rates have increased by 20%, while during the same period the rates for women have remained unchanged (Courtenay, 2000; Verbrugge, 1985). The state of men’s health in America is considered by many to be in a crisis.

On average, men in the United States die 7 years younger than women for all 15 leading causes of death (Courtenay, 2000). In cases of accidents, suicide, cirrhosis of the liver, and homicide, men’s death rates are at least twice that of women’s (Williams, 2003). College-aged males’ attitudes concerning their vulnerability and failure to adopt health-promoting behavior, as well as their engagement in risky behavior, are

significantly higher than that of college-aged females (Courtenay, 1998). Many factors have been offered to explain the disparity in health (see Ashton & Fuehrer 1993; Charles & Walters, 2008; Courtenay 1998, 2000; Kandrack, Grant & Segall, 1991), but the subject remains under-researched, and no one theory has been able to account for why the disparity exists (Kandrack et al., 1991).

Many theorists agree that masculinity, and the attitudes and behaviors that are socially promoted within a strongly embraced masculinity, can account for at least some of the disparity in health differences between the sexes (Charles & Walters, 2008; Courtenay 2000; Kandrack et al., 1991; Nobis & Sanden, 2008; Williams 2003). In western society, masculinity is defined by characteristics that serve as “rules” for how men should act and think (MacLean et al., 2009). These “rules” include features such as “men don’t cry,” “men are the breadwinners,” and “men shouldn’t need help.” Not appearing masculine has clear consequences reflected in the subordinated masculinity of “sissy,” “wimp,” or direct assault on a male’s sexuality. The process of expressing what is masculine or feminine is what is referred to as “doing gender” (Charles & Walters, 2008; Nobis & Sanden, 2008; West & Zimmerman, 1987). Masculinity and femininity can be expressed through socially guided activities and attitudes, both perceptually and through social and environmental interactions within society (West & Zimmerman, 1987). Part of “doing gender” for men includes embracing a hegemonic masculinity, largely as a result of social pressures, that promotes poor health decisions and a lack of help-seeking behavior. DIT suggests that throughout development, a categorization process occurs in which males adopt features of hegemonic masculinity as appropriate for their sex.

According to DIT, individuals begin “doing gender” as soon as the categorization of male and female become salient (Bigler & Liben, 2007). For males, the category “men” is a box that incorporates all sorts of activities, behaviors, and traits that are deemed appropriate. It is through both explicit and implicit social forces (e.g., media, culture, peer groups) that features which are “for men” become salient to males. The salient features associated with what is “for men” quickly form into stereotypes that pressure males with standards and expectations that not all males can (or want to) satisfy.

The social construction of hegemonic masculinity inevitably results in prejudice towards men who do not conform to masculine stereotypes (Courtenay 2000). These stereotypes serve as a mechanism to reinforce the attitudes and behaviors, or “rules” that men should adopt. Males face greater pressure than females to fit the expectations set in place by these stereotypes, and society encourages males to adopt norms of masculinity, including health-related beliefs (Courtenay 2000; Williams & Best, 1990). Society encourages men and boys to be tough and strong, to contain their emotions, and to be independent and self-reliant. Men who conform highly to masculinity norms tend to perceive – and create – more barriers (such as a sense of autonomy, a desire to maintain emotional control and privacy, and a minimization of the seriousness of the problem) to health care than men who do not (Boman & Walker, 2010). Men who conform to masculine stereotypes report a disavowed direct interest in talking about health, which is thought of as excessive and feminine (Sloan, Gough & Conner, 2009).

It is not only the endorsement of masculinity, but also the rejection of femininity, that serves to construct men’s attitudes towards health. In western culture, positive health care attitudes and beliefs have been socially constructed as feminine (Courtenay, 1998; 2000). Therefore, DIT suggests that positive health care attitudes are categorized as “for

women,” so adopting health-promoting behaviors is a direct risk to a male’s masculine image.

Help-seeking behavior. A significant part of health-promoting behaviors is the ability to seek help. Men tend to delay seeking medical help and visit their doctor significantly less often than women do (Noone & Stephens, 2008). What is more, men make fewer contacts with physicians across the lifespan than do women, and are twice as likely as women to have gone two years or more since their last doctor’s visit (DHHS, 1998). A clear implication of delaying or not seeking medical help is that symptoms can elevate and become more serious without treatment. In the case of sexually transmitted infections (STIs), it could mean the disease is more likely to be spread to others. Approximately 75% of college aged males diagnosed with STIs delayed getting medical help for as long as 6 months after developing symptoms of STIs (Prosser-Gelwick & Garni, 1988).

A part of men’s lack of help-seeking behavior is the tendency to conceal vulnerability and to have a perceived sense of invulnerability, a result of masculine stereotypes. According to a survey by the American Academy of Family Physicians (AAFP) in 2007, more than half of the men surveyed (59%) had not seen a primary physician within the last year, and more than one out of four men (29%) reported that they wait “as long as possible” before seeking help when they are in pain, sick, or concerned about their health. Yet the majority of men (79%) surveyed in the United States report their health is “excellent” or “very good,” despite their higher risks (American Academy of Family Physicians, 2007). In light of this evidence, men’s underutilization of health services has been considered problematic only recently (Courtenay, 2000; Mansfield et al., 2003).

Survey and focus group research reveal that attitudes toward health care practices are gendered, so that “doing health” falls under the more salient category of “doing gender” (Courtenay 2000; Noone & Stephens, 2008). Historically, the attitudes towards men seeking help and the underutilization of health services in men have been considered normal (Courtenay, 2000). By society’s standards, men’s rates of help seeking were considered normal, whereas women were thought to have been overutilizing services. This perspective served not only to construct men as the stronger sex, but also to portray women as weak and hypochondrical (Mansfield et al., 2003). Research continues to show that many of these attitudes are still prevalent among men, despite the evidence that men need more help than they actually receive (Courtenay, 2000; Mansfield et al., 2003).

Attitudes towards psychological help-seeking are equally as negative in men (Elhai, Schweinle, & Anderson, 2008; Kessler et al., 1999; Wang et al., 2005), and are also related to masculinity (Levant et al., 2009; Nam et al., 2010). Studies among college-aged individuals have consistently shown no diagnosable difference between males and females in depression (Courtenay, 1998). Despite this evidence, results from self-reports, rather than psychological tests, typically show depression is falsely perceived as a more serious issue for women rather than men. Men are more likely than women to try to talk themselves out of depression, rely on themselves, and withdraw socially (Chino & Funabiki, 1984; O’Neil, Lancee & Freeman, 1985). Similar findings showed that masculine ideals resulted in self-management strategies and an attempt to regain control when dealing with symptoms of depression (Oliffe, Robertson, Kelly, Roy & Ogrodniczuk, 2010). In another large study of 155 male adults, participants completed a battery of gender assessment scales and psychological well-being measures. Results demonstrated a clear connection between high scores on traditional masculinity and

endorsements of negative attitudes toward psychological help-seeking (Berger, Levant, McMillan, Kelleher, & Sellers, 2005). A comprehensive literature review highlighted the prominent theme of “traditional masculine behavior” as an explanation for the disparity between men and women seeking medical and psychological help (Galda, Cheater & Marshall, 2005). The authors also emphasized the limited attention this issue has received in their review, and the need for more research.

It is clear that, as DIT would suggest, the negative sex-typed attitudes toward health become salient to men and develop into gender stereotypes. It is less clear, however, which components of gender stereotypes (such as specific attitudes or sex-typed characteristics) and which pathways are more influential for males when it comes to their health. Males begin learning, perhaps from a very young age, social behaviors and attitudes that promote poor health. Studies have revealed that a crucial behavior, which may be producing negative health outcomes in males, is the unwillingness to seek help (Galda, Cheater & Marshall, 2005).

Methodologies in Measuring Help-Seeking Behaviors and Attitudes

Research showing the relationship between gender stereotypes and help-seeking behavior in adults has been steadily growing (see Ashton & Fuehrer 1993; Johnson, 1988; Moller-Leimkuhler 2002; Warren & Gerald, 1994) and has been shedding some light on the specific components of gender stereotypes that may be resulting in poor health in men. Additional research has explored adolescent development (Boldero & Fallon, 1995; Schonert-Reichl & Muller, 1996). One study, for example, demonstrated evidence of the disparity between boys and girls in health-behaviors in adolescence, and as young as 10 years old (MacLean et al., 2010).

There is a clear discrepancy in positive attitudes towards help-seeking behaviors between men and women (for a comprehensive review see Galda et al., 2005). Various studies have attempted to account for the discrepancy found in adults, and many conclude that some socialization processes are at least partly responsible (e.g. Courtenay, 1998, 2000; MacLean et al., 2010; Sloan, Gough and Conner; 2009). One significant study using the BSRI attempted to measure sex role orientation in college-aged participants, and suggested that both sex and sex role orientation significantly influenced help-seeking attitudes (Johnson, 1988). Therefore, it may be that sex-typing plays a key factor in influencing help-seeking behaviors in adulthood.

The research on gender stereotypes and help-seeking behaviors in adults is unfortunately limited by the lack of experimental methodologies. The majority of studies that examined the role of gender stereotypes in help-seeking relied on self-report surveys and questionnaires (Ashton & Fuehrer, 1993; Boldero & Fallon, 1995; Cohen, Guttman & Lazar, 1998; Johnson, 1998), or conducted interviews and focus groups (Charles & Walters, 2008; MacLean et al., 2010; Sloan, Gough and Conner; 2009). Although these studies have proven useful for increasing our understanding of the current poor condition of men's help-seeking, the results do not answer *why* men maintain negative attitudes towards help-seeking. Furthermore, the studies that do incorporate a measurement of gender stereotypes (e.g., Ashton & Fuehrer, 1993; Johnson, 1998) are prone to the weaknesses (i.e., unidimensional measures, assessing *knowledge*, desirability of items, etc) addressed by Liben and Bigler (2002). A carefully controlled experimental manipulation, paired with established self-report scales and an accurate measure of sex-typedness, is needed to better understand why a gender discrepancy exists in help-seeking behaviors.

Several studies, which used self-report scales, have begun to explore the reasons why there is a discrepancy in help-seeking attitudes between men and women. In one of the first studies to explore the discrepancy, Fischer and Turner (1970) found that when creating the Attitudes Toward Seeking Professional Psychological Help scale (ATSPPH), men consistently displayed more negative attitudes towards seeking-help. Several studies that incorporated this scale to measure individual's attitudes toward seeking professional help further supported their findings (Elhai, Schweinle, and Anderson, 2008; Levant, Wimer and Williams, 2009, 2011; Wade, 2009). The very first study to examine actual sex role orientation was conducted by Sipps and Janeczek (1986). The study explored sex-typing and its relationship with counseling expectations, and found that levels of femininity may be responsible for attitudes, rather than sex. Johnson (1998) conducted one of the only other studies to explore sex-typing and help-seeking attitudes using self-report measures, and found similar results toward professional help-seeking attitudes. Obviously, understanding the relationship between sex-typing and help-seeking attitudes is still in the very early stages.

Although Johnson (1988) attempted to measure sex-typing and help-seeking behavior, there are few other studies that have attempted to replicate or extend these findings empirically (Alea & Cunningham, 2003; Nadler, Mayseless, Peri, Chemerinski, 1985). In the Johnson study, participants completed the BSRI and the Attitudes Toward Seeking Professional Psychological Help (ATSPPH) instrument, but no experimental manipulation was used. Nadler et al. (1985) successfully incorporated an experimental manipulation in their study in which help-seeking behavior was the dependent measure. In the study, participants completed a word formation task while the researcher measured their actual help-seeking behaviors during the task. Results from this study were

primarily concerned with reciprocity in interpersonal helping, and showed a possible link between seeking help and perceived opportunity to reciprocate. Another study by Alea and Cunningham (2003) incorporated an experimental manipulation examining help-seeking differences between older and younger adults, allowing participants to ask for help while completing reasoning problems. No gender or sex differences were discussed, however, and concerns over the weaknesses in the manipulation were expressed (Alea & Cunningham, 2003). It is clear that more research is needed to directly measure the relationship between sex-typing and help-seeking in both adults.

Further examples of studies that experimentally manipulated help-seeking can actually be found in the child literature. To study help-seeking behaviors at a young age, and to determine when particular gender stereotypes began emerging, two studies focused on help-seeking behavior that was unrelated to health among children as young as 3-years old (Benenson & Koulnazarian 2008; Thompson, 1999). Apart from these studies, however, no other experimental designs have examined the relationship between gender stereotypes and help-seeking behavior in childhood. The study by Thompson (1999) was designed to examine sex differences in children's help-seeking behaviors when completing a standard puzzle task. As predicted, girls made more help-seeking utterances than boys, despite displaying no sex differences in puzzle-solving ability. Extending the work by Thompson, Benenson and Koulnazarian (2008) used similar methods to answer whether Thompson's findings could extend beyond just the one puzzle task, and whether the sex of the experimenter could account for the sex differences in help-seeking. The results of the study showed the latency for girls to request help was significantly less than boys across age groups and tasks. Additionally, the results revealed no effect of the sex of the experimenter.

Benenson and Koulkazarian (2008) argued that the differences found between boys and girls in help-seeking behavior demonstrate a “basic sex difference that appears before individuals become conscious of sex stereotypes” (Benenson & Koulkazarian, 2008, pg 164). It may be, however, that although the child has not yet begun to identify with or demonstrate sex stereotypes, the child is actively engaging in sex-typing, even before the age of 2 (Bauer, 1993). Many would argue that sex stereotypes are not the primary means that drive gendered behaviors, or even gendered attitudes, but that the sex-typedness of an individual is the underlying force behind these behaviors and attitudes (e.g., Biernat, 1991; Liben & Bigler, 2002; Signorella, Liben & Bigler, 1993). For example, DIT and the pathway models suggest that sex-typing is a process that shapes an individual’s gendered behaviors and attitudes (and ultimately provides the basis for sex stereotypes) throughout development and the lifespan (Liben & Bigler, 2007). Therefore, a measure of sex-typing might provide a more accurate evaluation of sex differences in help-seeking, and a more conclusive interpretation of these differences than that offered by Benenson and Koulkazarian.

The methods used in the previously discussed studies also suggest some limitations to their research designs. First, most studies do not control for the sex stereotypicality of the task being performed. Some tasks may be more sex-typed than others, and thus may be more unfamiliar or uncomfortable for a particular sex. For example, Benenson and Koulkazarian (2008) used toys, such as blocks and an electronic game, which one could suggest as being more masculine in nature. Because the authors did not control for the sex-typedness of the toys or tasks, it is difficult to conclude whether girls asked for more help than boys due to task unfamiliarity or comfort requesting help. In addition to measuring the sex-typedness of the tasks, there is a lack of

research attempting to measure the sex-typed attitudes of the participants from a multidimensional approach. More research is needed to explore the dynamic relationship between masculinity, femininity, and sex, and how these relationships affect one another, attitudes, and behavioral outcomes.

Overview of the Current Study

The current study addressed the weaknesses observed in the previous help-seeking research, and attempted to further bridge the sex-typing and health domain research. Similar to past research (Benenson & Koulkazarian, 2008; Thompson, 1999), male and female adults performed various age appropriate, gender neutral puzzle tasks designed to elicit help-seeking behaviors. In addition, four short health-related measures were incorporated in an attempt to bridge the gap between help seeking behaviors and health: the Attitudes toward Seeking Professional Psychological Help scale (ATSPPH), Attitudes toward Seeking Professional Medical Help scale (ATSPMH), and a help-seeking questionnaire in which respondents recalled a personal psychological and physical health event. Finally, adult participants also completed Liben and Bigler's (2002) OAT-AM/PM scales measuring sex-typed attitudes and personal interests and beliefs.

The study sought to answer how sex-typing is related to help-seeking behavior for each sex. More specifically, the study examined whether masculinity was negatively related to help-seeking attitudes and behaviors, and whether femininity was positively related to help-seeking attitudes and behaviors. We are also interested in how sex-typed attitudes and personally endorsed stereotypes were related to help-seeking behaviors, and how these may be utilized differently for each sex. We predicted that a measure of sex-typing might provide a more accurate evaluation of sex differences in help-seeking, and a

more conclusive interpretation of these differences than what has been offered by just biological sex differences alone (e.g., Benenson & Koulmazarian, 2008). In addition, the study explored whether there was a particular pathway (attitudinal or personal) in which sex-typing was related to help-seeking during puzzle tasks and health related help-seeking behaviors and attitudes. We predicted that there would be differences between males and females' utilization of the pathways based on previous research suggesting a multidimensional approach to sex typing (e.g., Liben & Bigler, 2002), although which pathway each sex would utilize more was unclear. The study also addressed whether the predictors of help-seeking found with puzzle tasks were similar to those found in the health domain (physical and psychological health). Because sex-typing pathways are dynamic and may be affected by context and the particular domain being measured (Liben & Bigler, 2002), we also predicted differences in pathway utilization between the puzzle tasks and the health related measures. It was unclear which pathway each sex would utilize more within the puzzle tasks and health domains, as sex-typing pathways have yet to be explored using the current study's measures. The answers to these questions should expand our understanding of *why* there exists a discrepancy between men and women's help-seeking behaviors, and ultimately help explain the poor condition of men's physical and psychological health in the United States.

CHAPTER 2

METHODOLOGY

Participants

Participants in this study were adults ($N = 144$; 72 males, 72 females) ranging in age from 18 to 52 years ($M = 20.64$, $SD = 4.60$) recruited through the Department of Psychology subject pool. The University Subject Pool is an online system in which psychology students enroll to participate in research on campus in order to fulfill research credits. Students in psychology courses are required to earn a minimum of 4 research credits. Credits may be earned by participating in experiments, completing an alternative assignment of writing summaries of approved articles, or both. Due to ethical reasons, students must be at least 18 years to participate in research. Participants in the current study received credit toward fulfillment of their research participation requirement. Participants first completed voluntary demographic information. Race of participants included: White (57), Black/African American (19), Asian/Asian American (18), mixed race or other race (41), or did not report race (9). The study was approved by the Social & Behavioral Sciences Institutional Review Board (IRB).

Materials

Help-seeking during puzzle tasks. A research assistant administered four tasks varying in difficulty and familiarity designed to elicit help-seeking behavior. Tasks were selected through pilot testing, and included a shape puzzle (Task 1), a metal 3D puzzle (Task 2), a 2D picture puzzle (Task 3), and a 3D block puzzle (Task 4). A video camera in the room (approximately 180cm from the experimenter and participant) recorded the participant, researcher, and the tasks.

The first task, the shape puzzle, consisted of a flat magnetic board and 5 polygon shapes that stuck to the board. The experimenter showed participants a photo of a complete image (a bird) made with the shapes (where individual pieces should be placed was not visible), and their goal was to create the identical shape with the five pieces. The second task, the metal 3D puzzle, consisted of three metal shapes connected together: a square, triangle, and circle shape. The goal was to separate the circle shape from the other two pieces; the square and triangle could not be separated. The third task, the 2D picture puzzle, was an image of frogs separated into 9 pieces. The goal was to fit all nine pieces together in a 3x3 grid to form a single cohesive image. The fourth and final task, the 3D block puzzle, was a square box that contained 4 cubes with varying slopes and angles. The goal was to fit all 4 cubes into the box, so that they made a perfect square. For all tasks, help consisted of standardized hints that entailed revealing one at a time where a piece should be located, or showing a picture of a step towards completion.

Health help-seeking measures. In order to measure attitudes towards seeking help for physical as well as psychological distress, four short measures were used.

Attitudes toward Seeking Professional Psychological Help scale (ATSPPH). The ATSPPH is an instrument designed to measure an individual's attitudes toward seeking professional help for psychological disturbances. Information about the measure was first published by Fischer and Turner (1970), but has since been updated and revised to a shortened form (Fischer & Farina, 1995). The shortened form consists of 10 items in Likert scale format (0 = *disagree*; 1 = *partly disagree*; 2 = *partly agree*; and 3 = *agree*) asking about the respondent's attitudes toward psychological services (e.g., I would want to get psychological help if I were worried or upset for a long period of time; see appendix A). Scores were derived by summing the scores on the individual items and

then dividing by 10. Scores range from zero to three, with higher scores representing more positive attitudes toward professional psychological help-seeking. The shortened form has good reliability and validity, with a .87 correlation (Cronbach's alpha) between the long and short versions of the scale (Fischer & Farina, 1995).

Attitudes toward Seeking Professional Medical Help scale (ATSPMH). The ATSPMH is a modification of Fischer and Farina's ATSPPH scale (Fischer & Farina, 1995). We modified the ATSPPH to incorporate help-seeking attitudes in situations that may cause physical or medical distress from illness. Responses were recorded and scored in the same way as the ATSPPH, consisting of 10 items in Likert scale format (0 = *disagree*; 1 = *partly disagree*; 2 = *partly agree*; and 3 = *agree*). Items asked about the respondent's attitudes toward services related to physical health (e.g., I would get medical attention if I were ill for a long period of time; see appendix B).

Help-Seeking Questionnaire (HSQ). The questionnaire was a modified version of Boldero and Fallon's (1995) measure of help-seeking and the perception of support helpfulness. The measure was designed to assess personal help-seeking behavior by asking participants to answer questions based on a personally experienced event. In this questionnaire, respondents recalled a "personal physical illness or injury problem" that caused them distress during the previous 6 months. Respondents selected a category that best described the nature of their problem: physical injury (such as broken bone or laceration), illness or sickness (such as the common cold or flu), concerning irregularity (such as an unusual lump or skin spot) or body aches or pain. Respondents then indicated whether they personally had asked for help with the event. Respondents were given the option of specifying another problem type if their problem did not fit one of the provided categories. Respondents rated the perceived seriousness on a scale from 1 (*not at all*

serious) to 5 (*very serious*), intimacy of the problem from 1 (*not at all intimate*) to 5 (*very intimate*), the stigma attached to it from 1 (*very little*) to 5 (*a great deal*), and the degree to which factors beyond or under their control had caused the problem from 1 (*factors beyond my control*) to 5 (*my own fault*). Respondents who indicated they asked for help indicated with whom they asked by checking one of several categories (i.e., friends, teachers, parents, counselor, or doctor), or providing an alternative if their answer did not fit one of the categories provided. The dependent variable of interest in the current study was whether or not the participant had personally asked for help.

The second section of the questionnaire required respondents to select a “personal psychological or emotional problem” that had caused them distress during the previous six months, select a category (feeling sad or depressed, feeling frustrated or angry, feeling stressed or anxious, feeling discouraged or hopeless, feeling worried or nervous) and indicate whether they had asked for help. Response ratings were scored the same as the first section of the questionnaire.

Sex-typed measures. Occupations, Activities, and Traits (OAT) is a measure of sex-typed attitudes and personal endorsement of these three different domains (Liben & Bigler, 2000). There were 25 (10 masculine, 10 feminine, 5 neutral) statements for each domain that assessed the participants’ attitudes (AM), and 25 statements for each domain that assessed the participants’ own personal interests (PM). For the AM, the participant indicated using a 6-point Likert scale whether men, women, or both men and women “should” perform it (see appendix C). For the PM, the participant indicated using a 4-point Likert scale how often s/he performed the item (see appendix D). The OAT took approximately 10 minutes to complete.

The OAT-AM was scored by calculating the proportion of stereotypic responses (the number of feminine items assigned to “only women,” plus the number of masculine items assigned to “only men” divided by the total number of stereotypic items; neutral items were excluded). Higher scores indicated greater stereotyping in each particular domain. The OAT domains were collapsed, yielding one overall AM score for each participant.

For the PM, the scores for the masculine and feminine items were calculated separately. The sum of the masculine item scores (range of 1-4 for each item) was divided by the total amount of masculine items (total of 10) for each domain. The same process was then conducted for the feminine item scores. Neutral items were not included in the analysis. The OAT domains were collapsed, yielding two PM scores –one masculine and one feminine. Therefore, there were three sex-typing scores for each participant – one attitude score and two personal scores (stereotypical masculine and stereotypical feminine). This measure has been demonstrated to have good internal and test-retest reliability, as well as strong external validity (Liben & Bigler, 2002). Reliability coefficients have ranged from .66 to .81 (Arthur, Bigler, & Ruble, 2009; Friedman, Leaper, & Bigler, 2007).

Procedure

The study was completed in one visit. Upon arriving, a research assistant explained the study and obtained informed consent and voluntary demographics. The order of measures was as follows: help-seeking during puzzle tasks (tasks 1-4), health help-seeking measures, and the OAT PM followed by the AM.

Participants first completed the puzzle tasks to elicit help-seeking behavior. Before each individual puzzle task, the experimenter clearly explained the instructions,

confirmed that the goal was clear, and told participants that their performance on these tasks would be measured by their speed and accuracy in solving the task. The researcher explicitly told participants that they could ask for help if they required it, and that receiving help would not directly impact their final score in any way. Pilot testing demonstrated that a 5-minute time constraint for each task was appropriate. All participants were provided with the same tasks, and if they requested help, were provided with the same order of hints. The experimenter worked on a computer across a table (approximately 90 cm from the participants), and had no other kind of interaction with the participant during the tasks unless the participant directly requested help. At the end of the time limit, the research assistant informed the participant that time had run out, and that it was time to move on to the next task. At the completion of the tasks, the experimenter gave participants the solution to the puzzles, if desired.

Following completion of the tasks, participants rated each task in Likert scale format for gender neutrality ranging from 1 (*only men*) to 5 (*only women*), difficulty ranging from 1 (*very easy*) to 5 (*very difficult*), and familiarity ranging from 0 (*I have never done this task before*) to 1 (*I have done this task before*). Results from the ratings of the tasks indicated no significant difference in stereotypicality of the tasks, $F(3, 284) = 2.43, p > .05$, difficulty of the tasks, $F(3, 284) = 2.31, p > .05$, or familiarity of the tasks, $F(3, 284) = 2.36, p > .05$.

Participants completed the health help-seeking and OAT measures on a computer running E-Prime 2.0 that recorded the participant's responses. The participant completed the questionnaires in the following order: HSQ, ATSPPH short form, ATSPMH short form, and the OAT-PM and AM measures of sex-typedness. Because the AM scales could make gender salient and potentially influence responses to the PM scales, the

participant first completed the PM scales followed by the AM scales. All together, the length of the study lasted approximately 1 hour.

Using the recorded videos, two researchers coded fifty percent of participants' help-seeking behaviors during the puzzle tasks. The two researchers discussed any discrepancies in their coding and resolved those by coming to an agreement. The two researchers then each coded half of the remaining videos. The researchers coded help-seeking behavior into one of four categories for the help-seeking tasks: request for knowledge or information, reference to experiencing difficulty, indication of lack of progress, and direct request for help (Thompson, 1999). In the help-seeking during the puzzle tasks, latency to request help was recorded in seconds. If the participant did not request help in the allotted time period, they received a score equal to the total amount of time they worked on the task (300 seconds).

Using the videos, researchers also coded experimenter affect using one of three categories: positive affect (i.e., overly speaks to participant without being spoken to, encourages/emphasizes participant to continue a certain behavior, agrees with participant in excessive manner); negative affect (i.e., shows passive rejection, withholds help, withdraws away from participant, ignores participant's questions); or neutral (i.e., provides directions, explanations, providing hint when asked for, and clarifies, confirms, repeats information when required). There were no instances of positive or negative affect by the experimenter.

Data Analyses

In line with the main research questions, data analyses were conducted separately for the general help-seeking tasks and the health help-seeking measures.

Help-seeking during puzzle tasks. To assess sex differences in help-seeking, we conducted a chi-square test to compare male and female instances of help-seeking behavior across all four tasks. Examining sex differences was important to determine if we replicated previous research showing sex differences in help-seeking (e.g., Benenson & Koulmazarian, 2008; Boldero & Fallon, 1995; Johnson 1988).

Following the chi-square analysis, we used linear and logistic regression models with the “enter” method to predict the effects of sex-typing on help-seeking behaviors for each sex. The outcome variables of interest included: 1) whether or not a participant elicited help-seeking behaviors (coded as dichotomous), 2) how many times the participant elicited help-seeking behavior (frequency), and 3) the latency to first display help-seeking behavior (scored in seconds). Normality of the variables was checked using visual plots and was found to be suitable for each model. For the first outcome variable, we conducted a binary logistic regression due to the dichotomous nature of the outcome variable. For the second and third outcome variables, we conducted multiple linear regression analyses. All outcome variables were collapsed across all four tasks because no significant differences were found between the participants’ ratings of difficulty, gender stereotypicality, and familiarity of the tasks, or among the participants’ solving ability. The predictors for the regression models in the analyses included the attitudinal and personal components of sex-typing: gender stereotyped attitudes (AST), personally endorsed masculine stereotypes (PMS), and personally endorsed feminine stereotypes (PFS). All predictor variables were mean centered in order to simplify comparisons.

Health help-seeking measures. To examine any sex differences in help-seeking, we conducted chi-square tests comparing male and female instances of help-seeking behavior in previous physical- and mental-health related events. This analysis allowed us

to compare findings with results from the help-seeking during puzzle tasks, and to determine if we replicated previous research showing sex differences in health related help-seeking (e.g., Courtenay 1998; 2000; MacLean et al., 2010; Warren & Gerald, 1994).

To assess whether attitudinal or personal gender stereotypes were predictive of physical and mental health help-seeking, we conducted multiple linear regression models similar to the help-seeking during puzzle tasks. The sex-typing variables were entered into the model simultaneously using the “enter” method. The predictors for the regression models in the analyses were the same as those used in the task help-seeking behavior analyses. Normality of the variables was checked using visual plots and was found to be suitable for each model. The analysis was split by sex, and two separate tests were conducted on the outcome variables of interest: scores on the ATSPPH and ATSPMH

To determine whether attitudinal or personal gender stereotypes were predictive of previous help-seeking behaviors as measured by the HSQ, we conducted separate binomial logistic regressions for the physical and mental health issues for each sex. The sex-typing variables were entered into the model simultaneously. The outcome variables of interest for the two separate analyses included whether or not participants previously asked for help (dichotomous).

CHAPTER 3

RESULTS

Manipulation checks

Because task-solving ability could affect participants' likelihood of asking for help, we conducted a one-way ANOVA to check differences in completion time between males and females on the four tasks. Results from the ANOVA indicated that there was no significant effect of sex, $F(52, 575) = .99, p = .52$, or task, $F(52, 575) = .62, p = .98$, on task completion. There were no males and no females who declined to try to solve any of the tasks once presented with them. In addition, all of the participants continued to work on the tasks during the maximum time allowed. Overall, for help-seeking during the puzzle tasks, 37.5% of males and 62.2% of females elicited help-seeking behaviors. For seeking help with a previous physical health event, 41.7% of males and 55.6% of females previously requested help. For seeking help with a previous mental health event, 13.9% of males and 18.1% of females previously requested help.

We also examined the predictor variables for collinearity. There were no indications of high multicollinearity among the sex-typing predictors (tolerance > 0.80 ; VIF < 1.2), but sex was highly correlated with all of the sex-typing predictors (see Appendix G for Pearson correlations and p values). The non-collinearity of the sex-typed measures fits with Bigler and Liben's (2006) proposal that attitudinal and personally endorsed stereotypes are different constructs, and is in line with our research question that seeks to explore how these different constructs predict help seeking behaviors.

Help-seeking behaviors during puzzle tasks

Results from the chi-square analysis demonstrated that female participants elicited help-seeking behaviors significantly more than male participants, $\chi^2(1, N = 576) = 35.00$,

$p < 0.001$, replicating findings from previous help-seeking research (e.g., Ashton & Fuehrer 1993; Benenson & Koulmazarian, 2008; Johnson, 1988; Moller-Leimkuhler 2002). The proportion of females who elicited help-seeking behavior was 62% whereas the proportion of males who elicited help-seeking behaviors was 37%.

Predictors of males and females' tendency to seek help. Results from the binary logistic regression are presented in Appendix H. The binary regression analysis for males revealed that personally endorsed masculinity (PMS) ($p < .05$) and sex-typed attitudes (AST) ($p < .01$) both significantly predicted whether or not males requested help. Males with more stereotyped attitudes and personally endorsed masculine stereotypes were less likely to seek help than other males. The binary logistic regression results for females revealed no significant predictors for whether or not females requested help ($p > .05$), although PMS showed a marginally significant negative effect ($p = .054$). The amount of variance explained in the model was .017 for females and .060 for males (Cox & Snell R^2 values).

Predictors of males and females' latency to request help. Results from the multiple linear regression analyses are presented in Appendix I. For males, AST significantly predicted their latency to request help ($p < .01$). Males with more stereotyped attitudes were significantly slower to seek help than were other males. For females, PMS was significantly predictive of latency to request help ($p < .05$). Females with more personally endorsed masculine stereotypes were significantly slower to request help than were other females. Additionally for females, personally endorsed femininity (PFS) was marginally significant ($p = .085$) and showed the opposite direction of effects, suggesting that females with more personally endorsed feminine stereotypes were somewhat quicker

to request help. The amount of variance explained in the models was .046 for females and .137 for males (adjusted R^2 values).

Predictors of males and females' frequency to request help. Results from the multiple linear regression are presented in Appendix J. Results for males indicated that both AST ($p < .01$) and PMS ($p < .01$) significantly predicted their frequency of requesting help, and PFS was marginally significant ($p = .060$). Males with more stereotyped attitudes and more personally endorsed masculine stereotypes requested help significantly less often than other males. Conversely, males with more personally endorsed feminine stereotypes show a trend to request help more often than other males. Results for females indicated that, similar to males, PMS negatively predicted frequency of help-seeking ($p < .001$), whereas AST was marginally significant ($p = .088$). For females, PFS positively predicted frequency of help-seeking ($p < .001$). Females with more personally endorsed masculine stereotypes requested help significantly less often, whereas females with personally endorsed feminine stereotypes requested help significantly more often. The amount of variance explained in the models was .067 for females and .079 for males (adjusted R^2 values).

Performance consequences related to help-seeking during puzzle tasks. In order to better understand the consequences for asking or not asking for help on the puzzle tasks, we examined individuals who had completed the tasks, and conducted a one-way ANOVA to test the difference in completion time between individuals who received a direct hint on the task and those who did not. Results indicated a significant difference in overall completion time by those individuals who received a hint on the task, $F(1, 55) = 12.92, p < .01$. Individuals who received a hint on a task were significantly faster at completing the task than those individuals who did not receive a hint.

We then conducted a multiple linear regression with the “enter” method to predict the effects of sex-typing on completion time for each sex among those participants who solved the task. Results from the regression are presented in Appendix K. The regression analysis for males revealed that PMS ($p < .01$) significantly predicted overall completion time. Males with more personally endorsed masculine stereotypes were much slower to solve the puzzle tasks than other males who solved the task. The binary logistic regression results for females revealed no significant predictors for completion time ($ps > .05$). The amount of variance explained in the models was .001 for females and .302 for males (Cox & Snell R^2 values).

Health-related help-seeking

Results from the chi-square analyses indicated there were no significant differences between males’ and females’ recalled instances of help-seeking for a previous physical or mental health-related event ($ps > .05$). The proportion of females who asked for help with a previous physical health event was 0.55 whereas the proportion of males who asked for help was 0.41. The difference in proportions was not significant, $\chi^2(1, N = 144) = 2.78, p = .13$. For the previous mental health related event, the proportion of females who asked for help was 0.18 whereas the proportion of males who asked for help was 0.13. The difference in proportions was non-significant, $\chi^2(1, N = 144) = .466, p = .650$.

Personal physical health help-seeking behaviors (HSQ). Results from the binary logistic regression are presented in Appendix L. The binary regression results for males indicated that PFS positively predicted previous help-seeking behaviors ($p < .05$). Males who personally endorsed feminine stereotypes were more likely to seek help with a previous physical health issue that caused concern. There were no significant predictors

of previous physical health help-seeking behaviors for females ($ps > .05$). The amount of variance explained in the models was .051 for females and .084 for males (Cox & Snell R^2 values).

Personal mental health help-seeking behaviors (HSQ). The binary logistic regression analyses showed there were no significant predictors of previous mental health help-seeking behaviors for either males or females ($ps > .05$). The amount of variance explained in the models was .056 for females and .049 for males (Cox & Snell R^2 values).

Attitudes toward physical health help-seeking (ATSPMH). Results from the multiple linear regression analyses indicated there were no significant predictors of either males or females' attitudes toward seeking help for a physical health problem ($ps > .05$). The amount of variance explained in the models was .054 for females and .023 for males (adjusted R^2 values).

Attitudes toward mental health help-seeking (ATSPPH). Results from the multiple linear regression analyses indicated there were no significant predictors of either males or females' attitudes toward seeking help for a mental health problem ($ps > .05$). The amount of variance explained in the models was .045 for females and .046 for males (adjusted R^2 values).

Help-seeking behaviors and health domain behaviors. A correlation analysis was conducted to examine whether there were any relationships between help-seeking on the puzzle tasks and help-seeking in the health domain. The outcome variables included health-related scores on the HSQ, ATSPMH and the ATSPPH. The predictors included participant's scores for the frequency and latency of help-seeking behaviors on the puzzle tasks. The data were first split by those who asked for help on the puzzle tasks and those

who did not. Results indicated no significant correlations among the variables when split ($ps>.05$), as well as when not split ($ps>.05$).

CHAPTER 4

DISCUSSION

The current study examined whether males' and females' attitudinal or personally endorsed gender stereotypes were related to: 1) help-seeking during puzzle tasks; 2) previous instances of seeking help for a physical and mental health issue; and 3) attitudes toward seeking help for a physical and mental health issue. Differences in the pathway utilization between males and females and between the puzzle and health tasks were also examined.

Consistent with our hypotheses, personally endorsed masculinity and gender stereotyped attitudes were negatively related to males' help-seeking behaviors during the puzzle tasks, and personally endorsed femininity predicted previous instances of males' seeking help for physical health issues. For females, only personally endorsed beliefs predicted help-seeking behavior during puzzle tasks, and contrary to our hypotheses, neither attitudes nor personal beliefs predicted previous instances of females seeking help for health-related issues. Furthermore, none of the sex-typing measures predicted attitudes toward seeking help for health-related issues for females or males. The results showing pathway differences between males and females partially support our hypotheses, and suggest that two pathways (personal and attitudinal) contributed to males' help-seeking behaviors, whereas only one pathway (personal) influenced females' help-seeking behaviors. In addition, these pathways were more predictive of help-seeking behaviors than attitudes. Also in support of our predictions were clear differences in pathway utilization between help-seeking during the puzzle tasks and the health measures.

Help-seeking during puzzle tasks

The current study replicated previous findings that demonstrated a clear difference between males and females in help-seeking behaviors (e.g. Benenson & Koulmazarian, 2008; Courtenay 2000; Noone & Stephens, 2008). Despite finding no sex differences in females' and males' ability to solve the puzzle tasks and their ratings of the tasks, males in the current study were significantly less likely than females to display instances of help-seeking behavior. In fact, females were nearly twice as likely to ask for help as males.

When the data from the help-seeking during puzzle tasks for each sex were examined separately, both males' attitudes and personally endorsed stereotypes were important sex-typing constructs for predicting frequency of help-seeking behaviors and latencies to request help . Only females' personally endorsed stereotypes were important for predicting frequency of help-seeking behaviors and latencies to request help. Gender stereotypes appear far more complex in their construct than what most previous research suggests – the very nature of a stereotype, whether it is personally endorsed or just an outward attitude towards others – has a varying effect on actual observed behavior, and these constructs may be differentially important for each sex.

It is worth stressing that for females, personally endorsed feminine stereotypes significantly predicted more frequent help-seeking, partially supporting our prediction that femininity would be positively related to help-seeking behaviors. This finding suggests that increasing personally endorsed feminine traits in females would affect the frequency of actual help-seeking behaviors. In contrast, for males in the current study, there were no sex-typing domains that positively predicted an increase in help-seeking behaviors. It may be argued, however, that decreasing personal masculinity or gender

stereotyped attitudes in males may achieve a similar effect on help-seeking behavior (i.e., increasing the frequency or reducing the latency), and future studies should examine if this is indeed the case.

The current study also demonstrated that receiving direct help on the puzzle tasks in the form of a hint impacted overall completion time. Furthermore, males' personally endorsed masculinity significantly predicted less frequent instances of directly asking for help as well as an overall slower completion time. The findings related to receiving a hint and completion time suggest that help-seeking behavior is related to performance and that, at least for males, personal masculinity may have a negative impact on actual performance when considering direct requests for help.

The findings from the attitudinal and personal measures support our pathway predictions, and suggest a difference between males and females in how the attitudinal and personal sex-typing pathways are utilized for each sex. For males, gender stereotypes in general – both personal and attitudinal – were important for determining whether or not a male asked for help. As a result, higher personal masculinity predicted more negative performance for males and females on the puzzle tasks. This study demonstrates that help-seeking behaviors and performance outcomes during the puzzle tasks may be partially explained by sex-typedness differences, and that these sex-typed pathways differ for each sex.

The findings from help-seeking during the puzzle tasks may generalize to real-world scenarios, such as help-seeking behaviors that could impact performance by students in a classroom. In such an example, the current findings would suggest that individuals who endorse more masculine stereotypes may be less likely to seek help on the material in class, potentially negatively impacting their learning and performance in

school. It is also worth noting that participants in the current study were openly told that requesting help would *not* directly impact their overall score. Even when individuals who endorse masculine stereotypes believe requesting help has no direct negative consequences on performance outcomes, it is still in some way an unappealing social behavior to elicit. The completion time results from the current study, however, showed that personal masculinity and requesting help did in fact affect performance on the tasks for males – suggesting that help-seeking may be an advantageous (or even necessary) social behavior. The tasks in this study demonstrated that, even in a very simple context, gender stereotypes clearly had consequences for performance. The puzzle tasks were carefully controlled for other social influences and factors (e.g., the gender stereotypicality of the tasks, the lack of competitive contexts, and the absence of peers and group contexts) that in the real world may amplify these effects. For example, the presence of other male or female peers could affect the likelihood of requesting help, and further intensify the effects of gender stereotypes (Liben & Bigler, 2002). The extent that the frequency or latency for help-seeking behaviors may be problematic for individuals with more endorsed masculinity and gender stereotyped attitudes should be further explored, and the various affects and consequences should be examined more thoroughly in order to better apply these findings to real-world contexts (such as school and work environments).

Health-related help-seeking tasks

To try and tap into a more serious and life impacting context and into the overall current state of men's health in the U.S., the current study examined how personally endorsed gender stereotypes and stereotyped attitudes predicted health-related behaviors and attitudes. The results from the health measures partially supported our predictions,

and revealed personally endorsed feminine stereotypes affected previous health-related help-seeking behavior in males, but not females, and had no impact on attitudes toward help-seeking. The sex-typing results suggest that gender stereotypes may be more predictive of health-related behaviors than of attitudes.

The finding that males' personally endorsed feminine stereotypes predicted more positive help-seeking behavior supports previous research that has showed health care utilization and positive health beliefs are perceived as "feminine" characteristics and ideologies (Courtenay, 2000). Unfortunately, the current study was unable to directly support previous findings that the behaviors and attitudes toward health help-seeking are directly related to masculinity (Levant et al., 2009; Nam et al., 2010), or demonstrate a clear link between sex, gender stereotypes, and mental health help-seeking (Courtenay, 2000; Galda, Cheater & Marshall, 2005; Panayiotou & Papageorgiou 2007). There are, however, numerous differences in the measures and outcome variables used in previous research and the current study, and these differences may explain the discrepancies in results from the current study.

The primary difference between previous health research and the current study is the nature of the outcome variable used to measure health help-seeking behaviors. Whereas previous research has commonly partnered with medical institutions and doctors, observing actual behaviors as an outcome variable (e.g., Courtenay 1998; 2000; Noone & Stephens, 2008), the current study was limited to recalled behaviors and attitudes. It may be that personally endorsed masculinity stereotypes significantly impact actual health related behaviors, whereas personally endorsed femininity stereotypes are more likely to impact recollection of medical events and self-report measures. It could be that because the current study had participants recall a medical event, as opposed to

measuring actual behaviors, there was a different observable effect of gender stereotypes. In the current study, the findings from actual help-seeking behaviors during the puzzle tasks were more similar to what have previously been found in the literature (e.g., see Whorley & Addis, 2006), whereas findings from the recalled behaviors during the health measures did not fully replicate previous literature. Despite this possible difference in how personally endorsed stereotypes may impact actual relative to recalled help-seeking behaviors, the findings from the current study still demonstrate an interesting effect of personally endorsed feminine stereotypes on physical health help-seeking. It is a finding that is worth exploring further in order to better understand the effect of femininity on overall health in males.

It may also be that null findings from many of the health measures in the current study are a result of the sensitive and personal nature of health related issues, particularly mental health, as these measures were all self-reported. Studies have demonstrated the unreliability of self-report measures in certain situations, such as health care utilization (Heinrich et al., 2011), and future research on help-seeking should find a way to circumvent this limitation.

The differences in findings between the puzzle-seeking tasks and the health domain tasks are worth exploring further in future studies. The current study demonstrated that, at least with these particular outcome variables, help-seeking behaviors across the two domains are not similar for males and females. Additionally, there were no correlations between help-seeking in the puzzle tasks and the health domain measures.

There are several possible explanations for the differences between the puzzle and health domains. First, it may be that the seriousness and intimacy of health related help-

seeking changes observable or reported help-seeking behaviors. In this study, the puzzle tasks may not have been perceived as particularly serious or intimate to the participant. Secondly, there may be a degree of anxiety or stress associated with reporting health related behaviors, which may have affected both participants' activation of gender stereotypes and their responses on the measures (Courtenay, 2000). Such an association may be true particularly for males because masculinity and anxiety appear to be associated when engaging in health related behaviors (Eisler, Skidmore & Ward, 1988). Finally, different domains may simply activate different gender stereotypes altogether and perhaps at different strengths. As both DIT and previous research suggests, the powerful nature of context and various environmental factors (e.g., see Bigler & Liben, 2007; Liben & Bigler, 2000) may affect the activation and exhibition of gender stereotypes. For example, a male in the presence of other male peers may increase masculine-role identification, and thus the endorsement of gender stereotypes and gender stereotyped attitudes. Future research should continue to explore differences in stereotype activation and their impact on behavior and performance within various domains and contexts.

Limitations

The results from the help-seeking during puzzle tasks cannot be explained by differences in task solving ability, the type of task, sex-stereotypicality of the tasks, or task difficulty. It is unclear if the behavior observed in the current study would change if an individual was not being observed, and it is important to recognize that all participants were aware of the experimenter in the room and the video camera recording their performance. This awareness may have in some way increased gender stereotyped behavior (i.e., social desirability; see Van de Mortel, 2008), and future studies should

examine the effect that certain social contexts and gender stereotypes have on help-seeking behaviors.

It could be argued that the sex of the experimenter could have had an effect on participant help-seeking behaviors. The current study had only a single male experimenter across all participants, which could potentially impact female or male participants' help-seeking behaviors differently than if a female experimenter had been present. Similarly designed studies, however, found no effect of sex of experimenter (Alea & Cunningham, 2003; Benenson & Koulkazarian, 2008). The aim of the current study was to maintain a consistent experimenter across all participants, and future studies should further explore what effect sex of the experimenter may have on behavior, if any.

Finally, it is worth exploring help-seeking behaviors in children. The current findings demonstrate that attitudinal and personally endorsed gender stereotypes differentially affect males and females' help-seeking behavior during adulthood, but whether these same pathways differentially impact males and females' help-seeking behavior during childhood and adolescence is less clear. We know gender stereotypes begin forming at an early age (e.g., Martin & Ruble, 2009), but it is worth exploring what individual role masculine and feminine stereotypes and attitudes play in help-seeking behaviors in school and home environments, particularly those help-seeking behaviors related to health outcomes. Perhaps obtaining a better understanding of how sex-typing develops may lead to appropriate interventions and strategies to encourage children and adults to seek help without negative consequences associated with endorsed masculine stereotypes and gender stereotyped attitudes.

Summary

For actual help-seeking behaviors on puzzle tasks, findings from the current study demonstrated that the personal and attitudinal pathways of gender stereotypes play distinct roles for males and females in predicting help-seeking outcomes. Females utilized the personal pathways for help-seeking behaviors during puzzle tasks. Males utilized both the personal and attitudinal pathways. When examining recalled health-related events, however, males' personally endorsed femininity predicted more previous instances of help-seeking for a physical health event, suggesting a possible difference in the utilization of pathways during recalled vs. observable help-seeking behaviors. The current study went beyond sex differences and explored the attitudinal and personal pathways that form masculine and feminine stereotypes. Results demonstrated not just sex differences in help-seeking, but sex-typedness differences, suggesting a new approach to examining sex and gender in help-seeking behaviors. Future research should continue to examine sex-typedness in help-seeking behaviors, and the particular pathways that males and females utilize. Particular attention should be directed toward observable health-related behaviors to address whether there is indeed a difference in the role personal and attitudinal sex-typed pathways play between observable and recalled help-seeking. It is also important to examine the role that pathway utilization in sex-typing and associated help-seeking behavior impacts actual health. Investigations of sex-typing pathways and differences in males and females' utilization of these pathways in various contexts and domains may help us better address help-seeking behaviors and the effects on actual health.

Appendix A

Attitudes Toward Seeking Professional Psychological Help (ATSPPH) Scale

Item

1. If I believed I was having a mental breakdown, my first inclination would be to get professional attention.
2. The idea of talking about problems with a psychologist strikes me as a poor way to get rid of emotional conflicts.
3. If I were experiencing a serious emotional crisis at this point in my life, I would be confident that I could find relief in psychotherapy.
4. There is something admirable in the attitude of a person who is willing to cope with his or her conflicts and fears *without* resorting to professional help.
5. I would want to get psychological help if I were worried or upset for a long period of time.
6. I might want to have psychological counseling in the future.
7. A person with an emotional problem is not likely to solve it alone; he or she *is* likely to solve it with professional help.
8. Considering the time and expense involved in psychotherapy, it would have doubtful value for a person like me.
9. A person should try and work out his or her own problems; getting psychological counseling would be a last resort.
10. Personal and emotional troubles, like many things, tend to work out by themselves.

Appendix B

Attitudes Toward Seeking Professional Medical Help (ATSPMH) Scale

Item

1. If I believed I was injured or getting ill, my first inclination would be to get medical attention.
2. The idea of addressing problems with a physician strikes me as a poor way to get rid of physical pain.
3. If I were experiencing a serious injury or illness at this point in my life, I would be confident that I could find treatment with a physician.
4. There is something admirable in the attitude of a person who is willing to deal with his or her injuries or illnesses *without* resorting to professional medical treatment.
5. I would want to get medical help if I were in pain or ill for a long period of time.
6. I want to regularly visit my primary physician.
7. A person with a physical injury or illness is not likely to solve it alone; he or she *is* likely to solve it with professional medical help.
8. Considering the time and expense involved in professional medical treatment, it would have doubtful value for a person like me.
9. A person should try and work out his or her own medical problems; getting professional medical treatment would be a last resort.
10. Injuries and illnesses, like many things, tend to work out by themselves.

WHO SHOULD DO THESE ACTIVITIES?

Here is a list of activities. We want you to tell us if you think each activity should be done by men, by women, or by both men and women. There are no right or wrong answers. We just want to know who you think should do these activities. If you think it should be done by only men, circle 1; if you think it should be done by mostly men, some women, circle 2; if you think it should be done by both men and women, circle 3; if you think it should be done by mostly women, some men, circle 4; and if you think it should be done by only women, circle 5.

WHO SHOULD:	Only Men 1	Mostly Men, Some Women 2	Both Men and Women 3	Mostly Women, Some Men 4	Only Women 5
1. fly a plane model	1	2	3	4	5
2. knit a sweater	1	2	3	4	5
3. sew from a pattern	1	2	3	4	5
4. go to the beach	1	2	3	4	5
5. wash clothes	1	2	3	4	5
6. fix a car	1	2	3	4	5
7. build with tools	1	2	3	4	5
8. play cards	1	2	3	4	5
9. shoot pool	1	2	3	4	5
10. ride a motorcycle	1	2	3	4	5
11. fix bicycles	1	2	3	4	5
12. do gymnastics	1	2	3	4	5
13. practice a musical instrument	1	2	3	4	5
14. read romance novels	1	2	3	4	5
15. practice martial arts	1	2	3	4	5
16. watch soap operas	1	2	3	4	5
17. baby-sit	1	2	3	4	5
18. shoot a bow and arrow	1	2	3	4	5
19. bake cookies	1	2	3	4	5
20. sketch (or design) clothes	1	2	3	4	5
21. grocery shop	1	2	3	4	5
22. draw (or design) cars	1	2	3	4	5
23. build model airplanes	1	2	3	4	5
24. sing in a choir	1	2	3	4	5
25. participate in political activities	1	2	3	4	5

Appendix D

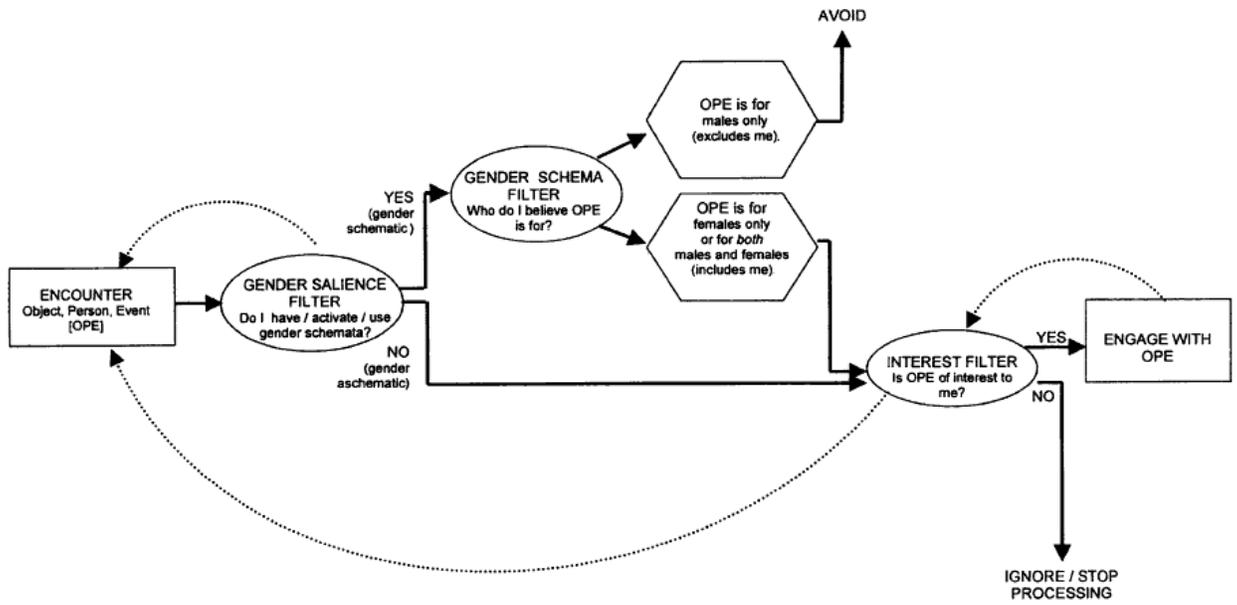
OAT-PM Example

WHAT I DO IN MY FREE TIME

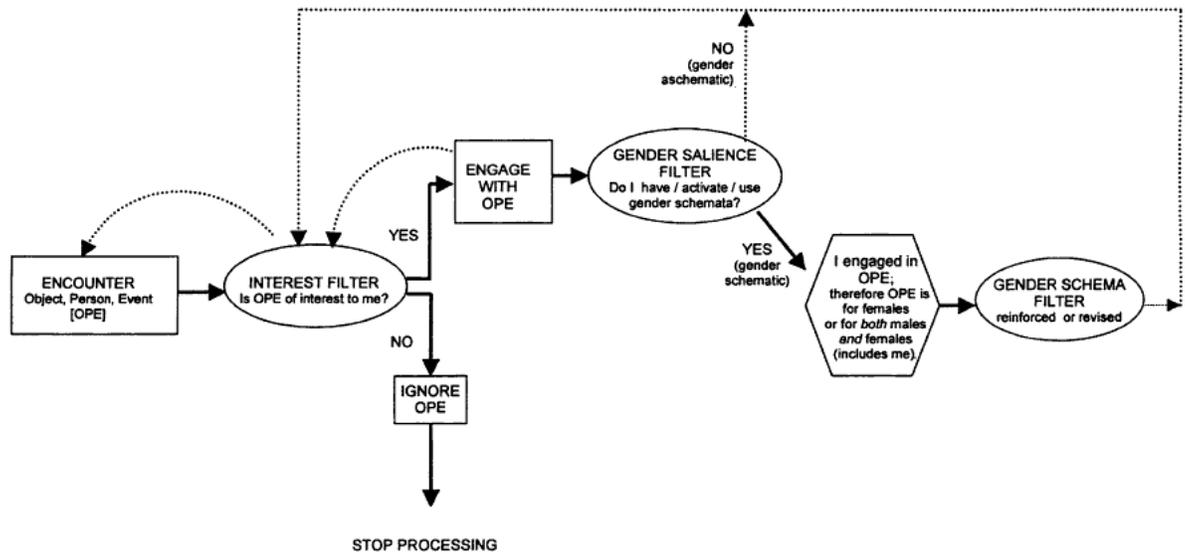
Here is a list of activities that people do. Please circle the number that shows how often you do each of these activities.

HOW OFTEN DO YOU:	Never 1	Rarely 2	Sometimes 3	Often or Very Often 4
1. wash dishes	1	2	3	4
2. iron clothes	1	2	3	4
3. go bowling	1	2	3	4
4. vacuum a house	1	2	3	4
5. go fishing	1	2	3	4
6. go to the beach	1	2	3	4
7. wash clothes	1	2	3	4
8. build with tools	1	2	3	4
9. cook dinner	1	2	3	4
10. play cards	1	2	3	4
11. shoot pool	1	2	3	4
12. wash a car	1	2	3	4
13. ride a motorcycle	1	2	3	4
14. set the table	1	2	3	4
15. go to the movies	1	2	3	4
16. play darts	1	2	3	4
17. do gymnastics	1	2	3	4
18. watch crime/detective shows	1	2	3	4
19. watch game/quiz shows	1	2	3	4
20. baby-sit	1	2	3	4
21. play video/computer games	1	2	3	4
22. hunt	1	2	3	4
23. shoot a bow and arrow	1	2	3	4
24. bake cookies	1	2	3	4
25. grocery shop	1	2	3	4

Appendix E
Attitudinal Pathway Model



Appendix F
Personal Pathway Model



Appendix G

Correlations between Sex, Personal Masculine Sex-typing (PMS), Personal Feminine Sex-typing (PFS), Sex-Typing Attitudes (AST), attitudes toward seeking mental-medical help (ATSPPH), attitudes toward seeking physical-medical help (ATSPMH)

Measure	1	2	3	4	5	6
1 Sex	-	.492**	-.561**	.207*	-.190*	.219**
2 PMS		-	-.118	.126	-.137	-.205*
3 PFS			-	-.096	.223**	.209*
4 AST				-	-.118	-.181*
5 ATSPPH					-	.446**
6 ATSPMH						-

* $p < .05$, ** $p < .01$

Appendix H

Binary logistic regression predicting how attitudinal and personally endorsed gender stereotypes affected whether or not males and females requested help during puzzle tasks

Sex		<i>B</i>	<i>S.E.</i>	Wald	<i>P</i>	<i>-2LL</i>	% Correctly Classified
Female	Step 1					377.068	60.8
	AST	-.841	.528	2.539	.111		
	PMS	-.793	.412	3.714	.054		
	PFS	.362	.389	.864	.353		
Male	Step 1					363.324	64.6
	AST	-1.186	.453	6.850	.009*		
	PMS	-.949	.392	5.873	.015*		
	PFS	.313	.529	.351	.554		

Variables entered on step 1: AST, PMS, PFS.

* $p < .05$

Appendix I

Multiple linear regression predicting how attitudinal and personally endorsed gender stereotypes affected latency to seek help during puzzle tasks

Sex		<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Female					
	AST	131.364	139.151	.944	.348
	PMS	239.028	107.592	2.222	.030*
	PFS	-177.207	101.389	-1.748	.085
Male					
	AST	282.869	94.861	2.982	.004**
	PMS	105.589	81.651	1.293	.200
	PFS	-78.241	111.727	-.700	.486

* $p < .05$, ** $p < .01$

Appendix J

Multiple linear regression predicting how attitudinal and personally endorsed gender stereotypes affected frequency of requesting help during puzzle tasks

Sex	<i>B</i>	<i>SE</i>	<i>t</i>	<i>P</i>
Female				
AST	-.502	.293	-1.714	.088
PMS	-.823	.226	-3.637	.000**
PFS	.863	.213	4.048	.000**
Male				
AST	-.495	.167	-2.972	.003**
PMS	-.447	.143	-3.115	.002**
PFS	.371	.196	1.888	.060

* $p < .05$, ** $p < .01$

Appendix K

Multiple linear regression predicting how attitudinal and personally endorsed gender stereotypes affected completion time among those participants who solved the puzzles

Sex		<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Female					
	AST	-2.106	57.527	-.037	.971
	PMS	61.639	43.984	1.401	.172
	PFS	3.052	40.666	.075	.941
Male					
	AST	34.325	50.116	.685	.501
	PMS	-149.523	40.749	-3.669	.001**
	PFS	92.268	60.399	1.528	.141

** $p < .01$

Appendix L

Binary logistic regression predicting how attitudinal and personally endorsed gender stereotypes affected whether or not males and females requested help on a previous physical health issue within the last 6-months

Sex		<i>B</i>	<i>S.E.</i>	Wald	<i>p</i>	-2 <i>LL</i>	% Correctly Classified
Female	Step 1					95.118	59.7
	AST	.703	1.063	.437	.508		
	PMS	-.068	.813	.007	.933		
	PFS	1.291	.793	2.649	.104		
Male	Step 1					91.462	62.5
	AST	.736	.902	.666	.414		
	PMS	.462	.781	3.49	.554		
	PFS	2.309	1.154	4.001	.045*		

Variables entered on step 1: AST, PMS, PFS.

* $p < .05$

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