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Emotional Understanding and Social Behavior in School-Age Children

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Abstract--*The present study investigated how emotional understanding is associated with teacher-rated behavior in school-age children. Ten first graders, consisting of four boys and six girls (M = 7.23 years, SD = .29 years) from United Faith Christian Academy took part in two tasks that measured emotional understanding. Participant behavior was evaluated using a brief questionnaire completed by the teacher of the students. A Pearson correlation found that the association between emotional understanding and teacher-rated behavior was not significant. These findings did not support the original hypothesis that higher levels of emotional understanding should be associated with higher levels of social behavior (as indicated by a lower score).*

Emotional understanding is a vital part of every child's social development because it involves their ability to identify their own emotions and the emotions of others, which aids in social situations. Even as young as the toddler and preschool years, children have an increasing ability to identify, express, and communicate their own emotions as well as the emotions of others. Some of the earliest emotions that become apparent in the emotional repertoire of young children are happiness, sadness, and anger. Having an understanding of these emotions aids a child in controlling their own feelings and helps them deal with interpersonal conflict that becomes more apparent with age. It is this interaction with social abilities and relationships that makes emotional understanding a valuable area of study (Denham, Zoller, & Couchoud, 1994; Ensor & Hughes, 2005).

Many factors contribute to emotional understanding. The components that will be closely examined include intrinsic factors such as individual differences and social capabilities, and a few extrinsic factors. Since all of these factors seem to overlap a great deal it is somewhat difficult to separate and distinguish between them. Individual differences include language ability and age, while social capabilities include behavior and emotion regulation. Extrinsic factors encompass the effects of adults, usually parents and teachers, on children's development of emotional understanding. All of these factors make important contributions to the development of emotional understanding and deserve further evaluation (Ahn, 2005; Ensor & Hughes, 2005; Pons, Lawson, Harris, & deRosnay, 2003).

Language, or verbal ability, is an important part of child development in and of itself, but it becomes even more important when connected to emotional understanding. Studies have found that emotional expression occurs at an increasing rate through words around the ages of 20-36 months (Ensor & Hughes, 2005). The "emotions words" used early on would be associated with the most basic of emotions such as happiness, sadness, fear, and anger, but as emotional understanding increases, emotions identified as pride, disgust, guilt, affection, and surprise are revealed through language (Bretherton, Fritz, Zahn-Waxler, & Ridgeway, 1986; Ensor & Hughes, 2005). Age would seem to have an obvious correlation with both language ability and emotional understanding, because as age increases, both language ability and emotional understanding increase. Age and language ability may also have connections to other areas associated with emotional understanding, such as the development of socialization (Pons et al., 2003).

Socialization refers to the development of social behaviors, which includes the ability to regulate emotions. One aspect of socialization is behavior. It is divided into two parts, prosocial or positive behaviors and behavior problems, both of which have been found to have associations with emotional understanding (Blair, Denham, Kochanoft, & Whipple, 2004; Ensor & Hughes, 2005). Ensor and Hughes (2005) administered verbal assessment tests and four tests of emotional understanding to two-year-olds, and their behavior was observed separately, with both their mothers and their peers. The authors found links between emotional understanding with both verbal

ability and prosocial or positive behavior in toddlers (Ensor & Hughes, 2005).

The observation of coping strategies offers a way to study the connections between behavior and emotion regulation. Emotion regulation is related to emotional understanding; they are both highly correlated to social competence and positive peer relationships. They differ in that emotion regulation is the key component for effective coping in highly stressful situations, while emotional understanding is the ability of an individual to state, understand, and process their feelings and the feelings of others. Emotion regulation includes an individual's ability to manage their own negative feelings as well as their reaction to negative feelings from others, but none of this would be possible without an understanding of emotions already in place (Blair et al., 2004; Denham et al., 1994). Blair et al. (2004) measured the temperament of preschoolers, ages three to four years old, as well as their ability to cope in negative situations. Teachers then rated their social abilities or competence. The authors found that preschoolers who made use of passive coping strategies, that is, they avoided or denied negative situations, exhibited poor emotion regulation and seemed to be at greater risk for future maladaptive behavior. This research offered an important look into how poor emotion regulation in combination with negative or stressful situations might lead to future social-emotional adjustment problems.

Emotional understanding is a foundational part of being able to regulate emotion (Blair et al., 2004). Both emotion regulation and behavior are influenced by interpersonal connections with parents and teachers. Converging evidence highlights the importance of a positive parent-child relationship for emotional development, and the relationship with the mother seems especially important (Denham et al., 1994). Ashiabi (2000) examined factors that affect and ways to promote emotional development in preschoolers. This research revealed the importance of secure parent-child relationships, which exist when a child initiates positive interactions and responds positively to initiations by the parent. This secure relationship is important because parents act as emotional coaches for their children. Denham et al. (1994) found that the more time a parent spends talking with their child and explaining social and emotional situations to them, the greater the child's understanding of emotion. Denham, Mitchell-Copeland, Strandberg, Auerbach, and Blair (1997) identified parents' emotional competence, expressive styles, and emotional responsiveness as key predictors of children's general socio-emotional competence. Children with emotionally positive parents displayed more positive emotions with peers, while children whose parents were more negative appeared less socially competent.

Although parental effects on emotional understanding have been well studied, very few studies have looked at the effects of teachers on the emotional understanding of children. Ahn (2005) looked at how much teachers talked about and discussed emotions with their young students. In this study, several teachers were chosen from various childcare centers, and they were observed for about four months during free play, teacher-led activities, and snack hours. Special attention was paid to the books each teacher read to the children. It was also noted if emotions from the books, the child's own emotions, and how to express emotions to their peers in a constructive way, were discussed. The author found that an increased amount of emotion discussions led to better emotional understanding and better emotion regulation. This study was done with both toddlers and preschoolers, and results were consistent for both ages (Ahn, 2005).

Research in the area of emotional understanding in children has covered a wide range of ages. Regardless of age, when studying emotional understanding and behavior, parent and peer interactions have been the most common sources for behavior measurement. Therefore, a new direction for this research would be to investigate the association between emotional understanding and behavior, by measuring student-teacher interactions. It also might be useful to study a population of children that are five years or older since it has been shown that the level of emotional understanding increases with age (Pons et al., 2003).

This study will examine how emotional understanding is associated with behavior, as measured by teachers, in school-age children. Including teacher measures of social behavior is an important and necessary addition to this area of research because it will add another dimension to children's social behavior. Teachers spend a great deal of time with their students; they watch them interact with fellow students and teachers in a variety of social situations that are unseen by parents and peers. It is also likely that teachers will give more objective ratings of children's behavior than would parents or peers. The present study expects to find that among school-age children, higher levels of emotional understanding will be associated with higher levels of social behavior.

Method

Participants

The participants of this study were ten first grade students (M = 7.23 years, SD = .29 years) from United Faith Christian Academy. Of these participants, four were male and six were female. All students were of middle to upper-class socioeconomic status, native English-speakers, and free of any serious health problems. Participation was based on whether or not parental consent was given, and if the child was willing to participate. Parental consent was requested through a consent form that was sent home to parents. This consent form was approved by the lower school head of United Faith Christian Academy.

Materials

The materials used to measure emotional understanding in this study were based on those used in a study by Denham (1986). They have been modified slightly for the sake of time and ease of administration. Denham (1986) measured emotional understanding using three tasks, which consisted of an affective labeling task, an affective perspective-taking task, and a cognitive perspective-taking task. Two of these tasks were used in this study, the affective labeling task and the affective perspective-taking task. The materials for the first task included four felt ovals with a different facial expression drawn on each (happy, sad, angry, and afraid - see Appendix A). The second task involved the use of two dolls for the girls and a stuffed dog and stuffed gorilla for the boys. These characters were the actors in twelve very short vignettes (see Appendix B). In order to keep it simple, a maximum of two dolls were used in each of the vignettes. An example of one of the vignettes is "If Susie takes Anna's apple, how will Susie feel?"

The Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) is a brief behavior screening questionnaire that measures 25 attributes of behavior, some positive and some negative (see Appendix C). These twenty-five attributes are divided into the following five scales: emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, and prosocial behavior. Each attribute is given a score of 0, 1, or 2; "0" being not true, "1" being somewhat true, and "2" being certainly true. The lower the total score on the SDQ, the higher or more mature the level of behavior. There are many different versions of the SDQ, but the most basic is often used to assess the behavior of children, ages 4-16 years old. Researchers, clinicians, and educators use this version by having parents or teachers complete the questionnaire about their child or student. Copies of this questionnaire were given to the teacher in order to measure each child's behavior.

Procedure and Design

Parental consent was obtained before beginning the study. The study was conducted during a two hour afternoon session. Upon beginning the experimental session, the teacher introduced the experimenter to the class, and informed them that she would be calling them to a vacant room down the hall from their classroom for 10-15 minutes. As the experimenter walked each child to the room, they were told about the questions they would be asked for a school project and assured they could stop at any time. The experimenter then began the two tasks measuring emotional understanding. The first task was simply identifying the emotions expressed on the four felt faces. Two points were given for each correct response, which was correctly identifying, through verbal response, the emotion on the felt face. There was a total of eight possible points. The second task involved viewing, listening to, and identifying the emotions of characters in the series of twelve vignettes described in the materials section. First, each child was told that the emotion expressed by each of the characters in the vignettes would be one of the four identified emotions from task one. The experimenter then reviewed the emotions from task one, which were happy, sad, angry, and afraid. This was done to keep any incorrect task one responses from carrying into task two. Finally, each child was asked to give two responses to each of the vignettes. The first used the felt faces from task one and the second was a verbal response. One point was given for a correct response, which was again a correct identification of the appropriate emotion, in either case. There was a total of twenty-four possible points. Upon completion of both tasks, each child was asked not to talk about the questions or tasks with their classmates in order to keep each participant unaware until they were evaluated. At the end of this session, the teacher was given the behavior questionnaires, and she was asked to fill one out for each child.

Results

The total score of emotional understanding (M = 24.9, SD = 4.09) was correlated with the total score from the SDQ (M = 15.8, SD = 3.15). A Pearson correlation revealed that these two variables were not significantly correlated, $r(10) = -.28$, $p > .05$, indicating

that higher levels of emotional understanding are not necessarily associated with higher levels (as indicated by a lower score) of teacher-rated social behavior. The correlation was in the expected direction since higher emotional understanding scores were predicted to be associated with lower SDQ scores, with lower SDQ scores representing higher levels of social behavior. The total score of emotional understanding was also separated into two parts, a total score for affective labeling (M = 5.8, SD = 1.48) and a total score for affective perspective taking (M = 15.8, SD = 3.16). These scores were separately correlated with the total SDQ score, but no significant relationships were found.

Discussion

This study found that the association expected between higher levels of emotional understanding and higher levels of social behavior was not significant. The predicted negative correlation existed between the two variables, but the relationship was not significant. It is important to point out that a negative correlation was expected because of the scoring of the data. For emotional understanding, high scores were related to high levels of emotional understanding, but for behavior, low scores were related to high levels of social behavior. Thus, the prediction was the higher the scores of emotional understanding the lower the scores on the SDQ. These findings did not support the original hypothesis that higher levels of emotional understanding should be associated with higher levels of social behavior.

The results of this study do not agree with past research in the area of emotional understanding and its relationship to social behavior. Ensor and Hughes (2005) looked at the connection between emotional understanding, verbal ability, behavior rated by mothers, and peer interactions in toddlers. Their study found a significant connection between emotional understanding and positive social behavior as did the research by Pons et al. (2003). In this case, behavior was measured by experimenter observation. In this present study, teacher-rated behavior was thought to be an effective source of behavior measurement because past research revealed that teachers had a significant effect on children's emotional understanding (Ahn, 2005). The present research points in the predicted direction, but the findings were not significant. This could be the result of the many limitations of this study.

One of the most obvious limitations of this study was the small sample size which was due mostly to time constraint. Another limitation closely related to this one was the use of a sample that was not highly representative of the general population of first graders. All of these students had very similar backgrounds and family situations, thus it would be expected that their levels of emotional understanding and behavior might be similar. Another limitation of this study may have been the simplified procedure, which was used for the sake of time and for greater ease of administration. The tests may not have measured all of the important dimensions of emotional understanding. It is quite unlikely that there were any problems with the SDQ used to measure behavior since it is a well-documented and widely used test. It is quite likely that the insignificant results of this study were due mostly to the limitations in sample size and the representative quality of the sample. In spite of these limitations, there are also a few strengths.

The strengths of this study were found in the simple procedure used. The short and simple nature of the procedure kept the participants' attention. The procedure was both interactive and non-stressful which is important when working with children. The use of a similar procedure in the future would seem to be an effective way to test for a significant association between two new variables. In spite of not finding significant results, this study was still valuable, since it investigated a different aspect of emotional understanding in children. This study also brought to light many possibilities for additional research in this area.

Future research might repeat this study with a larger, more representative sample. Further investigation of how parent versus teacher ratings of behavior differ seems necessary; an examination of the different relationships each of these measures has with emotional understanding should be included. Additional research expanding on the present study might explore how the relationship between emotional understanding and behavior changes with age. This research could also take a new direction by adding a variable such as emotion regulation. Emotion regulation is related to emotional understanding, but it would be both interesting and valuable to further explore actually how they are related. This could be done by looking at the relationship between emotion regulation and social behavior in children. This relationship might then be compared to the relationship between emotional understanding and behavior.

In summary, even though the relationship between emotional understanding and teacher-rated social behavior in school-age children was not significant the results were in the predicted direction. This implies that they should be taken into consideration because it

is quite possible that with a larger, more representative sample a significant relationship might be found. These results are important because they add to the verylimited research where teacher-rated measures of behavior are used. It is very important for teachers' to assess children's behavior because they spend a great deal of time with their students, and their behavior ratings are likely to be more objective than parents or peers. This research has the greatest impact on children because it reveals information about how their emotional understanding develops and what helps and hinders this development. As more information is gained, parents and teachers can learn more effective ways of interacting with and reacting to their children and students.

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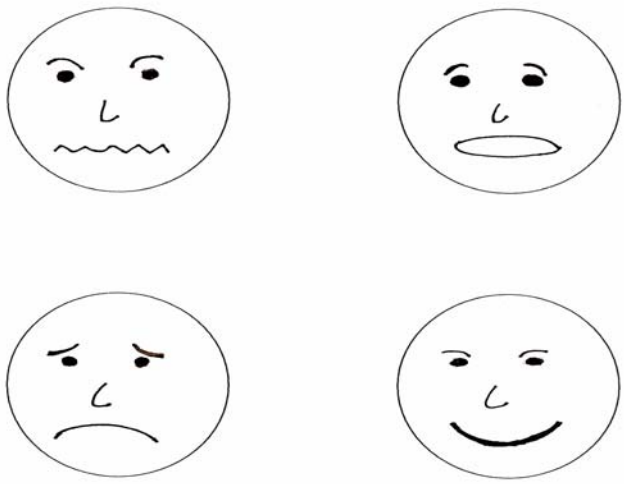
Appendix A



Appendix B

Vignettes for Task Two:

~ for Task Two, two named Barbies/other dolls (for girls) and two named action figures (for boys) will be used during the actual study, but for the purpose of revealing the content of the vignettes the titles Character 1 and Character 2 will be used

1. If Character 1 hits Character 2, how will Character 2 feel? (angry/sad)
2. If Character 2 brings Character 1 a present, how will Character 1 feel? (happy)
3. If Character 2 takes Character 1's lunch, how will Character 1 feel? (angry/sad)
4. If Character 1 invites Character 2 to his/her house, how will Character 2 feel? (happy)
5. If Character 1/2 gets lost in the mall, how will Character 1/2 feel? (afraid/sad)
6. If Character 1/2 has to go to the doctor, how will Character 1/2 feel? (afraid)
7. If Character 1 asks Character 2 if he/she may have one of his/her cookies and Character 2 says "No", how will Character 1 feel? (angry/sad)
8. If Character 1/2's cat/dog runs away, how will Character 1/2 feel? (sad)
9. If Character 1/2 scores a goal at his/her soccer game, how will Character 1/2 feel? (happy)
10. If Character 1/2 goes to the toy store to get a toy he/she has been wanting for a long time only to find that the store is all out, how will Character 1/2 feel? (sad)
11. If Characters 1 & 2 are playing in their neighborhood and a strange man comes up and starts talking to them, how will Characters 1 & 2? (afraid)
12. If Characters 1 & 2 are playing at recess and Character 2 decides he/she does not want to play with Character 1 anymore, how does Character 1 feel? (sad)

Appendix C

Strengths and Difficulties Questionnaire P or T[4-10]

For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain. Please give your answers on the basis of the child's behavior over the last six months or this school year.

Child's name ..... Male/Female

Date of birth .....

	Not True	Somewhat True	Certainly True
Considerate of other people's feelings	☐	☐	☐
Restless, overactive, cannot stay still for long	☐	☐	☐
Often complains of headaches, stomach-aches or sickness	☐	☐	☐
Shares readily with other children, for example toys, treats, pencils	☐	☐	☐
Often loses temper	☐	☐	☐
Rather solitary, prefers to play alone	☐	☐	☐
Generally well behaved, usually does what adults request	☐	☐	☐
Many worries or often seems worried	☐	☐	☐
Helpful if someone is hurt, upset or feeling ill	☐	☐	☐
Constantly fidgeting or squirming	☐	☐	☐
Has at least one good friend	☐	☐	☐
Often fights with other children or bullies them	☐	☐	☐
Often unhappy, depressed or tearful	☐	☐	☐
Generally liked by other children	☐	☐	☐
Easily distracted, concentration wanders	☐	☐	☐
Nervous or clingy in new situations, easily loses confidence	☐	☐	☐
Kind to younger children	☐	☐	☐
Often lies or cheats	☐	☐	☐
Picked on or bullied by other children	☐	☐	☐
Often offers to help others (parents, teachers, other children)	☐	☐	☐
Thinks things out before acting	☐	☐	☐
Steals from home, school or elsewhere	☐	☐	☐
Gets along better with adults than with other children	☐	☐	☐
Many fears, easily scared	☐	☐	☐
Good attention span, sees work through to the end	☐	☐	☐

Signature ..... Date .....

Parent / Teacher / Other (Please specify:)

Thank you very much for your help

Successful Aging in the Minds of College Students

Marcia Jones

Georgia Southern University

Abstract—*Aging has been associated with many problems and negative stereotypes, including physical, mental, social, and financial issues. Research has shown that some problems can be prevented, and negative stereotypes can be alleviated. The present study was conducted to examine perceptions about aging in the minds of college students. Participants were asked to report information about themselves, such as their current health habits, as well as complete surveys asking their perceptions of old age in general and predictions about themselves in old age. How students saw themselves currently and their beliefs about old age did predict their views of themselves as elderly people. Thus, increased dedication to healthy living while young and more positive perceptions of aging in general would likely improve college students' predictions of their own old age.*

Aging is associated with genuine problems as well as negative stereotypes. These include, but are not limited to physical, mental, social, and financial limitations (O'Hanlon & Brookover, 2002). Physically, a vast array of changes is associated with the aging process, including deficits in hearing, sight, cardiovascular functioning, and the nervous system in general (O'Hanlon & Brookover, 2002). Mosby's medical dictionary (Anderson, 1998) defines aging as the process of growing old resulting in part from a failure of body cells to replace those that are dead or malfunctioning. Normal cell function may be lost through infectious disease, malnutrition, exposure to environmental hazards, or genetic influences. Among body cells that exhibit early signs of aging are those that normally cease dividing after reaching maturity (Anderson, 1998). Perhaps based on these changes, older people are likely to experience less immunity, decreased bone density, and increased joint inflammation. As people age, they often lose vitality and energy (Jeste, 2005) as well as experience a reduced quality of life (O'Hanlon & Brookover, 2002).

In addition to actual physical changes associated with aging, some expected changes are in fact based on negative stereotypes (Levy & Myers, 2004). Levy and Myers (2004) argued that there is an association between the belief that health problems are inevitable in old age and an elderly person's unwillingness to adopt preventive health measures. Individuals who were seventy-five years old and older were found to be less likely to seek any sort of preventive care such as flu vaccines and blood-pressure screening (Levy & Myers, 2004). Participants considered arthritis, difficulty sleeping, and heart disease to be a normal part of the aging process (Levy & Myers, 2004). Unfortunately, negative stereotyping of the elderly is perpetuated by scientists, largely because of the major focus medical research has on disease and disability in older age (Jeste, 2005).

In addition to negative physical expectations, mental deficits have been associated with old age (Ponzo, 1992). Because loss of mental function has been widely publicized, much of the population has come to believe that dementia is associated with aging. Although dementia is not necessarily part of old age, this problem can indeed occur. Mild memory loss may be a symptom of early dementia (Steffens et al., 2006). Indeed, experts believe that mild cognitive impairment and late-life depression are associated with increased risk for subsequent dementia in later life (Steffens et al., 2006).

When dementia does occur, one outcome is often an increased reliance on others for care (Secker, Hill, Villeneau, & Parkman, 2003). Perhaps due to dementia as well as additional deficits, older people may be pressured to become dependent members of society. However, the social stigma of dependence on others is pervasive even into older age. For example, Secker and colleagues (2003) reported that older adults became confined to their homes in an attempt to avoid being viewed as dependent by their neighbors, family, and friends. In fact, many older people chose to live alone even on the verge of starvation just to be independent (Secker et al., 2003). Certainly, in the US, being dependent is viewed as a sign of weakness, and this weakness becomes an expectation for the elderly (Secker et al., 2003).

One final aspect of growing old that may not be as negative as once believed is financial status. The elderly are actually becoming more powerful economically. Between the mid 1960s and 1970s, the poverty rate among the older population was reduced by half (Gergen & Gergen, 2001). Today the older population is the least likely to be poor when compared to those who are younger (Gergen & Gergen, 2001). This comparative increase in wealth also means that businesses increasingly

will cater to the elderly. Products and services will be created to increase life satisfaction. Even advertising will relate to the elderly in positive ways, with the older ladies becoming fashion symbols and the elderly lifestyles becoming the model of what people want (Gergen & Gergen, 2001). Therefore, retirement is no longer viewed with dread but is viewed with much anticipation by those looking forward to a higher standard of living.

Dependence on others also may involve financial needs. A negative stereotype concerning old age is that the elderly are financially dependent (Secker et al., 2003). Many elderly want to avoid any type of reliance on others such as being indebted to them because it is viewed as a sign of weakness. Oftentimes, they will not allow their own children to care for them financially and will deprive themselves of the necessary resources of everyday life, including food and medicine (Secker et al., 2003). One specific financial problem experienced by the elderly is health-care costs. Every year, health-care costs rise faster than the inflation rate (Ponzo, 1992). Furthermore, social security may be insufficient in the future to support retirees.

Although aging is associated with some genuine problems as well as negative stereotypes about growing old, many problems associated with aging can be avoided by adopting a healthy lifestyle and engaging in preventative behaviors. Healthy aging has been associated with healthy treatment of the body (Jeste, 2005). For example, people who do not smoke and who maintain an ideal body weight, consume limited amounts of alcohol, eat a good balanced diet, and exercise regularly may be healthier throughout life and enjoy higher levels of physical functioning (Jeste, 2005). In fact, people who engage in healthful behaviors are likely to live longer than those who do not (Levy & Myers, 2004). Even negative stereotypes about aging can be alleviated. For example, college students who interacted often with older people were significantly more likely to adopt a more positive view of the aging process (Gorelik, Damron-Rodriguez, Funderburk, & Solomon, 2000). Thus, aging can become a more positive process simply by increasing healthful behaviors and changing negative views of aging during younger years.

Just as physical decline can be alleviated, mental decline may not be inevitable. Theories of learned intelligence suggest that cognitive behavioral approaches can promote mental well being (Zauszniewski, 1997). This type of learned behavior exists when individuals take charge of their lives and keep anxiety and depression from overcoming them (Zauszniewski, 1997). It was reported that if people with dementia trained for their careers, it would lessen depression among those with dementia (Teri, 1999). Even when true dementia does exist, patients can receive treatment. For example, Reid, Ryan, and Enderby (2001) studied 19 people with dementia and found that active listening and imaginative responses enabled dementia suffers to make informed decisions concerning their care and treatment. Thus, improved cognitive functioning promoted a sense of independence and empowerment (Reid et al., 2001).

In order to age successfully, older people need to stay active and have supportive family and friends (Baltes & Lang, 1997); however, independence is also important. Secker and colleagues (2003) focused on different components of independence: not having to rely on others for personal care, financial independence, and the capacity for one to have self-direction. Participants reported the need for freedom to do what they want to do, when they want to do it (Secker et al., 2003).

Older people often focus on the development of spirituality and religiosity. Seventy-six percent of individuals who are sixty-five years old and older stated that religion is a very important aspect of their lives (Eggers, 2003). Fifty-two percent of the people surveyed attend religious services on a weekly basis. A fourth of this fifty-two percent pray at least three times a day. Twenty-seven percent reported that they read their Bible two to three times a day and that they watch programming on television that is religious. Eggers noted that the greatest percentage of people who reported believing in the existence of God were sixty years old and older. Seventy two percent of this same category also believed that there is life after death (Eggers, 2003). A positive relationship is often found between religion and general well-being in western society, particularly for the older adult population. Involvement in different religious activities may offer social support as people age. Indeed, Kehn (1995) reported a positive association between how satisfied older people are with life and their religious commitment.

The American Psychological Association (1998) maintains that many students view older adults as being lonely, isolated, sick, and frail even though research indicates that older people are much more likely to age well. The perception that young people have about the aging process is important because research has shown that the more students learn about the aging process, the more they will have a positive attitude and work toward healthy aging (O'Hanlon & Brookover, 2002). Healthy aging is described as a process that is lifelong and promotes opportunities for improving and preserving one's health and physical, social, and mental well-being (Peel, McClure, & Bartlett, 2005). Although healthy aging is possible, negative stereotypes about aging often prevent students from maintaining healthy lifestyles in preparation for aging. Therefore, the present study examined predictors of students' views of themselves in old age. It is predicted that there is a relationship between students' perceptions of their lives now and how their lives will be in years to come.

Methods

Participants

Fifty-four students (23 males and 31 females) from a southeastern university participated in this study. Students were offered extra credit in their introductory level psychology class to participate. Ages ranged from 18 to 26, with an average age of 21 (*SD* = .02). Ethnicities included 38 Caucasians, 14 African Americans, and 2 American Indians. There were 15 first-year students, 16 sophomores, 17 juniors and 6 seniors.

Materials

The first survey given to the participants asked them to think about "yourself" when choosing a response. This survey consisted of seven sections. It had a rating scale that ranged from 1 to 6 with 1 being "very important" and 6 being "very unimportant." The first section was titled "Social and Familial Relationships." There were seven questions in this section asking about the importance of being able to do things for others, good relationships with family and relatives, being socially active, having good friends, and interacting with others regularly. The second section was called "Financial Concerns." This section had 4 questions asking the individuals to rate the importance of having their own home, not having to work, being able to travel and being financially secure. "Independence" was the 3rd section. It contained 6 questions about the importance of living in one's own home and taking care of personal needs themselves. It also included questions about remaining in control of his/her own life, having good health and pleasurable daily activities and community involvement. Section 4 was called "Intrinsic Values." It had 5 questions asking about the importance of having a church home, attending church and praying regularly, accepting your own mortality and being happy. "Cognitive Functioning," which was the 5th section had 3 questions. It involved such questions as being able to think clearly, how well one remembers and the importance of maintaining good memory skills. The 6th section was entitled "Physical Appearance" and had 2 questions. The section entitled "Accomplishments," contained one question asking how important it is to have accomplished something significant in life. The surveys used in this research were modified from a previous study conducted by Eggers (2003).

The second survey given to the participants asked them to use the same 7 sections to rate responses to "old age in general." The 3rd survey given to the participants asked them to think about themselves in "old age" when choosing a response to the same items a third time. This would enable us to understand the differences in perceptions among the students in each section.

The fourth survey dealt with attitudes and stereotypes people perceive about the elderly. The directions instructed participants to "rate the importance to which you agree with each of the following statements." The scale ranged from 1 to 6, with 1 being "very important," and 6 being "very unimportant." This block had 10 questions in all about how participants view old people. This section ask how well they agree with old people being the safest drivers and whether or not they are more depressed than younger people. The statements that were to be rated by the participants are: "aging is a positive process in life," "old people are grouchy," "old people should not drive," old people are wise," and "old people don't like change." Negatively-worded items were reverse scored, and an overall average provided an indication of attitudes toward the elderly.

Procedure

Participants provided informed consent before completing demographic information and the first, second, third, and forth surveys. They were asked to read each page carefully and answer all the questions in each section giving a rating between 1 and 6. A rating of 1 corresponded with "very important," and 6 corresponded with "very unimportant". When the surveys were completed, they were placed face down in an envelope. During debriefing, students were asked if they had any questions. They were told how they could receive the results of the study and thanked for their time.

Results

These data were analyzed using regression analysis, and all potential predictors were entered simultaneously (see Table 1 for descriptive statistics). Average score of "general view of old age" items as well as sex, ethnicity, age, religiosity, health, and average score of "yourself now" significantly predicted the average score of "self in old age," $F(7, 46) = 11.88$, $p < 0.01$. However, further analysis revealed only two significant predictors: "yourself now" and "general view of old age." The *Y*-intercept was .41, and slopes for the average score of "yourself now" was .47 ($p < 0.01$). The slope for the average score of "general view of old age" was .34 ($p < 0.01$). (See Table 1.) Sixty-four percent of how students saw themselves in old age was explained by these factors. The standard error of the estimate was .27 on a scale from 1 to 6.

Discussion

In the present study, students' current perceptions of themselves affected how they see themselves in old age. This result indicates a connection between students' perceptions of their lives now and what their lives will be like in the future. Students may or may not recognize that lack of healthful behaviors during college likely predict their health in old age. If students live their lives in a way that does not benefit their health, they may suffer later as elderly adults. Conversely, if they live a positive lifestyle while young, they are more likely to experience positive elderly years. Because students might not see the connection, explaining the connection may be useful. For example, if the student knows an elderly person who exercises, has a positive attitude, and is in good health, he or she may associate growing old with good health. On the other hand, if the student knows an elderly person with a negative attitude who does not exercise

Table 1

Descriptive statistics and regression outcomes for all variables

Variables	Mean (SD)	slope	*p*-value
Sex	1.57(.50)	.100	.208
Ethnicity	4.33(1.10)	-.012	.734
Age	19.87(1.77)	.025	.249
Religiosity	1.83(.67)	-.107	.083
Health	3.31(.70)	.092	.107
Current View of Self	5.36(.37)	.465	.000
View of Old Age	5.34(.43)	.341	.001
Self in Old Age	5.43 (.42)	(Criterion Variable)	

and is in poor health, he or she may recognize that growing old can be associated with poor health.

Our results further suggest that students who reported a negative view of old age in general also predicted a negative experience for themselves in old age. When asked at what age you would consider someone to be old, the average age was 58 years. Students reported their definition of old age as ranging from 30 to 90 years old. As suggested by Gorelik and colleagues (2000), interacting with the elderly has the capacity to improve students' views of the aging process. Students may volunteer at retirement homes or interact with older relatives more often. Spending time with the elderly might show students that aging is not necessarily a negative experience. As an added benefit, students might discover a vast wealth of knowledge and wisdom to be passed down to a younger generation.

Limitations of the present study include a minimally diverse sample. Our convenience sample contained a majority of Caucasians between 18 and 26 years of age. This sample limits generalizability; therefore, future studies should examine more diverse samples as well as larger samples.

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Comfort Women and the Stockholm Syndrome: The Psychological Trauma of Sexual Victimization in Warfare

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"Men, when they receive good from whence they expected evil, feel the more indebted to their benefactor." -Machiavelli

I. Background Information: "A Forgotten Holocaust"

On August 14, 1991, a Korean woman named Kim Hak Soon stood before the international community to make what would be the first-ever testimony of a former "comfort woman." *Ianfu* in Japanese (*ian*, comfort + *fu*, woman), this euphemism and officialese has been used to describe women forced into sexual slavery for Japanese military men during World War II. In her harrowing account of her wartime experience, the seventy-four-year-old Kim Hak Soon testified to the world about the tremendous sexual brutality suffered by an estimated 200,000 women at the hands of the Japanese Imperial Army immediately before and during the war (Stetz & Oh, 2001). Her public appearance encouraged other ex-comfort women to emerge from all parts of the world to share their experiences, breaking the half-century silence into which they had been unduly shamed. From their stories emerged a picture of a forced prostitution system in which Asian, European, and Pacific Island girls and women were placed in so-called "comfort stations" across Asia to serve as military sexual slaves for the Japanese (Stetz & Oh, 2001). Over eighty percent of them were Korean; the rest were from other Japanese colonial territories, including China, Manchuria, Taiwan, the Philippines, Indonesia, Burma, Malaysia, and Thailand (Stetz & Oh, 2001).

The Japanese government gave several reasons for its establishment of the comfort women system. One was based on the belief that soldiers long deprived of sex, a fierce primitive need, would succumb to "temporary derangement" (Hicks, 1994, p. 28) and perform poorly in combat. Japanese military leaders also rationalized that instituting such a system was necessary and even honorable as it prevented soldiers from raping civilians (Tanaka, 2002). Finally, a cultural belief dictated that sex before battle was a "charm against injury" (Hicks, 1994, p. 32) and, without it, a soldier was prone to misfortune on the battlefield.

The details of the mass rape and violence recounted by former comfort women are most graphic. According to Schellstede (2002), one of them, Kim Dae-Il, testified witnessing a most ruthless murder during her captivity:

> [The soldier] sat on top of the stomach of a pregnant "comfort woman" who was almost full term. Apparently this act induced labor. As a baby started to appear, he stabbed both the infant and the mother and exclaimed, "Hey, these *senjing* (dirty Koreans) are dead. Come and see. (p. 26)

In addition to inflicting such violence and pain, the soldiers often made vulgar sexual requests. When some of the braver women resisted those advances, they faced frightening consequences. In her testimony, Mun P'ilgi described a soldier who "tore all her clothes off, beat her, and eventually pressed a red-hot iron against her armpit" (Tanaka, 2002, p. 55) when she refused him. Another ex-comfort woman, Kim Hak Soon recalled:

> There was one who ordered me to suck him off, while he held my head between his legs. There was another who insisted that I wash him after intercourse…. [I]f I resisted they would beat me until I gave in. (Tanaka, 2002, p. 56)

Under these tragic circumstances, these women suffered severe sexual psychological trauma. Short-term effects of this type of trauma include social withdrawal, fear, and anxiety, which could last for a few months to years. Long-term effects are post-traumatic stress disorder, sexual dysfunction, substance abuse, and suicidal behaviors and thoughts. Risks of developing these problems, and their severity, are dependent upon the severity of the assault, other past experiences of trauma, and perceived lack of control (Yuan, Koss, & Stone, 2006). According to Brownmiller (2000), a feminist author and historian, sexual psychological trauma "stems primarily from [victims'] loss of physical autonomy, their feelings of physical invasion, and the harsh brutality of a forced,

nonconsensual act in a private, intimate zone." Unable to endure such distress, many comfort women committed suicide by consuming overdoses of drugs containing alcohol or liquid cresol soap, a wash solution for the genitals (Tanaka, 2002). Those who survived, a mere twenty-five percent (Schellstede, 2000), experienced various psychological problems, including depression, post-traumatic stress disorder, psychoneuroses, mental illness, Rape Trauma Syndrome ("Addressing Rape," 1998), and Stockholm Syndrome both during and after the captivity. Seldom discussed with respect to comfort women is the Stockholm Syndrome, a psychological phenomenon in which a victim taken captive begins to identify with and develops an emotional bond with his or her captor and abuser. The syndrome was first identified in a 1973 bank robbery in Stockholm, Sweden, an incident that forced three women and one man into 131 hours of captivity at the hands of two armed criminals. After they were rescued, the hostages expressed their sympathy toward the robbers, aiding them in procuring their criminal defense fees. One woman even developed a romantic relationship with and eventually became engaged to one of the captors (Carver, 2002).

The next sections of this paper will (a) discuss the emergence and effects of the Stockholm Syndrome as a consequence of sexual victimization in the context of warfare, focusing especially on the experience of a single former comfort woman, Bae Jok Gan, who classically exhibited the syndrome both during and after her life in the comfort station; and (b) present an interpretation of this psychopathological syndrome as a coping and defense mechanism which may allow a victim to defend against feelings of shame and loss of self-worth and to continue to hope for survival.

The Stockholm Syndrome: Traumatic Bonding

As former comfort women continue to await legal compensation from the Japanese government, which has long denied its atrocities against them, a handful of scholars and activists have taken it upon themselves to heighten public awareness of their plight. Among them is Dai Sil Kim-Gibson (1999), a Korean American filmmaker who interviewed seven former Korean comfort women for the production of her documentary, "Silence Broken: Korean Comfort Women." In her book by the same title, she makes sincere efforts to communicate the physical and psychological suffering endured by those victims, including one who experienced the Stockholm Syndrome. She is Bae Jok Gan, with whom the author confesses she has "wrestled so" (p. 9):

> I had such emotional battles with Grandma Bae Jok Gan when she told me over and over again that she would prefer marrying a Japanese…. In fact, I am astonished how I could have been so totally oblivious of the Stockholm Syndrome which delineates the emotional bonding of victims with their victimizers if for no other reason than the pure desire for survival. (p. 9)

According to D. L. Graham (1994), the syndrome is characterized by a victim's privately acquired perception of kindness and hope in the face of formidable circumstances. The victim displays intense gratitude for any act of consideration and kindness that the victimizer may show toward her, such as providing food and clothing or allowing a trip to the bathroom, a gesture which would normally go unappreciated under secure conditions. In an attempt to mitigate in her mind the gravity of her critical situation, Bae Jok Gan sought evidence of hope, which she must have believed would improve her chances of survival. "[The soldiers] were kind to me," she insisted, "They stole a blanket when I was cold…. The small things they did for me, they were the ones who tied me to them with human warmth. When I was hungry, they stole food for me" (Kim-Gibson, 1999, p. 92). To erase any doubt from the reader's mind, Kim-Gibson illustrates that Bae Jok Gan had indeed been raped repetitively and brutally. In her own words, the ex-comfort woman recalled:

> The Japanese soldiers, they went bang, bang…you can't imagine how many of them came…Thirty, fifty a day…Of course, they were brutal and cruel…They did all kinds of things. I can't bring myself to talk about them even though you are a woman. I hated it when they used their fingers on me… I [got] venereal disease when I was 19. (p. 67-68)

Ironically, such an ordeal, instead of rendering her bitter toward her abusers, propelled her to convince herself that the Japanese were not "all that bad" as they provided her with food and blankets. By clinging to this more or less consoling belief, she denied any feelings of resentment, terror, and rage that the abusers must have infused in her and others. Her refusal to acknowledge the blatant harm that the Japanese inflicted on them led her to focus on and bond with what she perceived as the positive side of the abuser. The result was a myopic understanding of the overarching circumstances, a tragic loss of judgment. In the end, Bae Jok Gan appeared to have forgotten—or worse, intentionally dismissed—the greater context (the war and the mass rape) in which those "kindnesses" were noted and unduly amplified.

The Stockholm Syndrome as a Coping Mechanism

A result of hostage taking, victimization, and force, the Stockholm Syndrome is a paradoxical psychopathological disorder that distorts victims' perception of their circumstances and often befuddles and frustrates their loved ones as well as mental health professionals and law officials. As such, it is a remarkable form of coping with unbearable circumstances that may improve a hostage's chances of survival. One may reduce the syndrome to a kind of brainwashing that causes the victim not only to identify with the abuser but also to rationalize his violence against her to the point where she assigns blame and responsibility to herself or to his opponents. In the following two statements, for example, Bae Jok Gan holds herself and her birth country, Korea, responsible for her suffering: (1) "I blame Korea most. The fact that our country was weak. Were we a strong country, it would not and could not have happened. So if I am to blame anything, anybody, it is Korea" (Kim-Gibson, 1999, p. 80); and (2) "I told you all my suffering.

This is all because of my sins in a previous life, *karma*…I was stepped on, trodden and had all that suffering because of my previous sins. This is what I believe. That's why I don't blame [the Japanese]" (Kim-Gibson, 1999, p. 79).

A common response of women to their sexual victimization, self-blame appears to be an undignified extension of self-derogation. Indeed, much of the research on postrape adjustment has shown that self-blame is associated with avoidance coping, which involves high rates of post-traumatic stress disorder, low ratings of self-esteem, withdrawal, and other antisocial behaviors (Arata, 1999). Janoff-Bulman (1979, as cited in Arata, 1999) identified and described two types of self-blame that are displayed by victims of sexual assault: characterological and behavioral. Characterological self-blame involves a rape victim's attribution of blame to relatively stable, enduring sources such as her character and personality due to the illogical belief, known as counterfactual thinking, that something inherently wrong with her has brought the assault on her. Behavioral self-blame, the most common response of rape victims, involves attributing blame to oneself based on the belief that she should have done something to prevent the rape from taking place. Though behavioral self-blame was previously theorized to result in better post-rape adjustment, research has shown that both behavioral self-blame and characterological self-blame are associated with maladaptive postrape adjustment (Arata, 1999).

Ironically, the avoidance coping mechanism of self-blame is what allows Bae Jok Gan to cope with her situation better than other comfort women during and after her time in the comfort station. Conceivably, in her case, Stockholm Syndrome reduced those negative effects of self-blame, by serving as a means of psychological defense against the adversity. According to Graham (1994), self-blame is a cognitive distortion that represents "an attempt to feel in control" (p. 40). He further states that cognitive distortions increase chances of survival by reducing fear and anxiety, providing hope of escape, and facilitating emotional bonding with the abuser. Perhaps the reason why Bae Jok Gan was able to experience the kindnesses of the soldiers and later to survive, when so many others in the same comfort station committed suicide or were killed, was because she acted in accordance with her belief that *she* was the one to blame for her suffering. Such a conviction, however distorted, led her to provide what she believed to be service to the soldiers, thereby finding favor in their eyes and increasing the likelihood of her survival. Clinical psychologist Joseph M. Carver (2002) even calls the syndrome a "strategy for survival for victims of abuse and intimidation" because it induces a desire to understand and love an abuser, who may consequently act more sympathetic toward the victim. It is also often encouraged by clinicians and crisis negotiators in hostage crime situations.

In addition to increasing chances of survival, Stockholm Syndrome may also serve to protect a rape victim's ego from shame and the loss of self-esteem accompanying forced sexual servitude. At one point, Bae Jok Gan confessed,

> All I knew was that I was there for the Japanese. I devoted my entire being to them…. I wanted Japan to win. After all, they were the ones who supervised us…. How could we want the Chinese to win? If I had any sympathetic feelings, they were for the Japanese…. I cheered for the victory of the Japanese…I was sad that Japan had been defeated. (Kim-Gibson, 1999, p. 70-71)

This statement illustrates not only the power of authority to victimize and still win over its subjects but also perhaps a victim's attempt to project her own victim image onto the victimizer. Recognizing the adverse nature of her plight that is damaging to her self-worth, Bae Jok Gan actively brought herself to identify with her abusers. This process not only improved her chances of survival, as already noted, but also allowed her to cope with the distress and shame of being under someone's control. In other words, Stockholm Syndrome afforded her the luxury of expressing sympathy to her victimizer. Knowing full well that the Japanese had undeserved control over Korea, and yet identifying and sympathizing with them, Bae Jok Gan was able to adapt the reality of her situation to an idea more comforting—that she was, rather than a sufferer at the mercy of the Japanese, a devoted subject of Japan who served its troops. Such rationalization caused her to continue to identify with the Japanese even after the war was over and Korea liberated (e.g., "I was sad that Japan had been defeated").

While Stockholm Syndrome may have helped Bae Jok Gan survive the trauma, it is still a form of psychopathology that prevents a victim's productive social functioning. Research has shown that rape victims often develop a sense of alienation from their society following sexual assault and consequently remove themselves from their support groups. Many report a loss of interest in forming sexual and other interpersonal relationships (Yuan et al., 2006). To her interviewer, Bae Jok Gan, too, expressed her feeling of physical and emotional isolation: "I feel no affection for those to whom I have blood ties. There is no one to whom I feel tied. I am totally alone in this whole wide world. Totally alone. I am not lying" (Kim-Gibson, 1999, p. 94). Her isolation was made unique and ironic by her identification with her abusers who caused that aloneness. However, she insisted:

> Do I think what Japan did was evil? Not really. After all, Japan was at war. They wanted to win the war…I blame Korea for being a weak country…I still think it was [Korea's] fault. If

> only we had been powerful enough, Japan could not have done what they did to us. (Kim-Gibson, 1999, p. 80-81)

Her persistent defense of her victimizers—a socially inappropriate behavior that may turn her society, which is still indignant about the past, against her—may exacerbate her isolation. In the aftermath of sexual assaults, negative reactions received from others (known as secondary victimization or retraumatization) can aggravate the isolation (Littleton & Breitkopf, 2006). Having developed emotional bonding with the Japanese as a result of the syndrome, Bae Jok Gan, deeply and perhaps irrevocably, internalized their rationalizing and unrepentant attitudes toward their atrocities. Half a century later, she was still unable to condemn her abusers and their country, still in denial of their crimes against humanity.

Conclusion

Finally speaking out, former comfort women have taken legal measures against the Japanese government, which in denial of its flagrant past crimes against humanity, has yet to make a formal apology or reparations. Its reluctance to redress the wrong makes the story of comfort women all the more poignant. Only twenty-five percent of them are known to have survived the horrific daily violence and sexual abuses of the Japanese; the rest were either killed or took their own lives. One woman, Bae Jok Gan, chose a completely astonishing alternative: bonding with her abusers. This baffling pattern of behavior, called the Stockholm Syndrome, is quite commonly observed in victims who are held captive by their abusers for a prolonged period of time. To reduce the immense distress of being in such a dire and life-threatening situation, the comfort woman clung to the trace of hope and consolation she could find in emotionally bonding and identifying with her abusers.

The most deadly mass rape of women on record, Japan's comfort women system is a shameful blot on human history that attests to the devastating nature of sexual exploitation. The number of ex-comfort women alive is ever-dwindling, and eventually, the only things that will remain of them are their testimonies of pain and suffering. The Japanese government must admit their military crimes now and make necessary amends for the profound damage it so carelessly did to women, a shameful injustice it so irresponsibly denies. Nothing will reverse the past, but making a formal apology and reparations are the least that the Japanese government can do to deliver justice, however belated and inadequate, to the victims of a silenced tragedy who endured the unendurable and finally told the untold.

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Cannabis as a Gateway Drug: An Examination and Evaluation of Potential Causal Mechanisms

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Abstract--*An ongoing debate within the literature concerns whether cannabis is a 'stepping-stone' or 'gateway' drug which leads to future hard drug use. There is particular disagreement over the causal mechanisms involved, and whether the relationship between cannabis and hard drug use is a direct effect due to cannabis use per se, or an indirect effect due to underlying predispositions and social factors relating to cannabis use. This paper examines and evaluates such explanations of the potential causal mechanisms involved and the variables which mediate this relationship. It is concluded that psycho-physiological and neurological, social, genetic and environmental explanation can all in part account for the statistical relationships observed between cannabis and hard drug use. However, it may be that cannabis has its gateway effects through a number of potential mechanisms, with no one mechanism accounting fully for observed relationships. A further consideration is given to what specifically constitutes a direct gateway effect.*

Cannabis is the most widely used illegal drug in the western world (Hall, Johnston and Donnelly, 1999). Recently there has been growing interest in the harmful consequences of cannabis use. Perhaps the most enduring and controversial topics is whether cannabis is a stepping-stone drug; whether using cannabis increases the risk of going on to use harder drugs (Lynskey, Vink & Boomsma, 2006). There are diverse theories and findings in this area, in particular in terms of the causal mechanisms involved in this relationship. This paper will review and critique the findings in the literature concerning such causal mechanisms responsible for the gateway effects of cannabis.

Drug progression

There is strong evidence of a structured sequence of drug use, from cannabis to harder drugs such as cocaine and heroin. One U.S. study (CASA, 1994) found cannabis users had an 85 times higher risk for using harder drugs than non-cannabis users. Fergusson and Horwood (2000) found that of those who used both cannabis and other drugs, less than 1% had used hard drugs prior to using cannabis, and that those who used cannabis were 140 times more likely to have used hard drugs. Kandel and Yamaguchi (2002) found that 90% of cocaine users use cannabis before they use cocaine. This sequence of progression from cannabis to harder drugs has been replicated in a number of different countries (Lessem et al., 2006), and may be the best replicated finding in drug use epidemiology (Kandel, 2003). However, there has been little progress in answering whether the use of cannabis actually directly 'causes' the use of other drugs, and if so, what specific mechanisms are responsible for this relationship (Kandel, Yamaguchi & Klein, 2006).

The stepping-stone theory (e.g. O'Donnell & Clayton, 1982) holds that the progression of drug-use is such that use of one drug will invariably lead to use of another drug. Using cannabis, therefore, will not simply increase the risk of using harder drugs, but will make it inevitable. Whilst there is clearly a hierarchical sequence of drug use progression, the claim that it will make hard drug use inevitable has received little support, as it has become apparent that not all individuals who use cannabis go on to use harder drugs (Kandel & Yamaguchi, 2002; Stephens, Roffman & Simpson, 1993). As a consequence, the stepping-stone theory has developed into the 'gateway hypothesis' (Kandel, 1975). According to the gateway hypothesis, there is a hierarchical sequence of progression from one drug to another, but this sequence does not make progression inevitable; it simply increases the subsequent risk. Advocates argue that the existence of hierarchical stages in drug use does not imply that these are universal or that one will necessarily lead to the other (Kandel, Yamaguchi & Chen, 1992); use of one drug is necessary, but not sufficient, for use of a harder drug. Although the gateway hypothesis was originally developed to account for the developmental stages observed in all drug use, nowadays it usually refers specifically to the relationship between cannabis use and later 'harder' drug use (Kandel et al. 2006).

The gateway hypothesis is based on three main criteria (Kandel, 2003): sequencing, association and causation. Sequencing refers to the progressive sequence in the use of drugs. Association refers to the hierarchical

sequence, with soft drugs leading to hard drugs. Causation refers to the cause-effect relationship; use of one substance directly causes use of the other. The assumptions of the gateway hypothesis have been largely controversial (Fergusson & Horwood, 2000). However, there is a body of evidence to support its assumptions. As outlined previously, a robust finding is that there is a developmental sequence of drug progression. There is also evidence that drug progression is by no means inevitable; the majority of cannabis users do not go on to use cocaine and heroin (Kandel & Yamaguchi, 2002), and at least 40% of regular cannabis users never use any other harder drugs (Stephens et al., 1993). This is against the assumption of inevitable progression held by the stepping-stone theory, and suggests instead a 'gateway effect' of increased risk of, but not inevitable progression towards the use of harder drugs. However, the main problem that advocates of the gateway hypothesis have is proving that this relationship is causal. It has been argued that cannabis plays a direct causal role in the relationship, (e.g. DeWit, Hance, Offord & Ogborne, 2000), whilst others disagree. The evidence suggests a gateway effect, but there are a number of different explanations for the relationship in terms of causality and the specific mechanisms involved (Maccoun, 2006; Hall, 2006). The gateway hypothesis alone does not give any clear explanations as to why cannabis use leads to an increased risk of hard drug use.

Evidence for a direct causal relationship

A number of findings support the gateway hypothesis' claim that cannabis use directly causes the use of other drugs. However, here may be a number of specific causal mechanisms that encourage those who use cannabis to go on to use hard drugs (Fergusson & Horwood, 2000).

Dose-effects. Fergusson, Lynskey and Horwood (1993) claim that the relationship occurs because cannabis users find cannabis to be enjoyable and consider it to be safe. This claim in turn leads to experimentation with other drugs to see if they have similar properties. This receives support from findings showing that the frequency of cannabis use is proportional to subsequent risk of using harder drugs: Kandel (1984) found that only 7% of adolescents who never used cannabis used other drugs, whilst this figure was 33% for infrequent users and 84% for heavy users. Fergusson, Boden and Horwood (2006) found that after controlling for frequency of cannabis use, relationships between cannabis and harder drugs were weakened.

This concept of a dose-effect relationship implies a direct causal relationship, and suggests an even stronger form of the gateway effect; each individual dose of cannabis may be increasing an individuals risk to use hard drugs (Morral, McCaffrey & Paddock, 2002b). However, as will be discussed later, there may be a number of social and genetic factors which increase the risk both of heavy drug use in general, and of using hard drugs. Such common factors may explain such observations of dose-effect relationships in drug progression. Furthermore, whilst observations of dose-effect relationships give support to theories of the causal mechanisms involved, such as that of Fergusson et al. (1993) mentioned above, dose-effect observations alone do not explain the specific causal mechanisms by which heavier cannabis use increases the risk of hard drug use.

Adolescence. Much evidence for the gateway effects of cannabis come from findings of robust links between adolescent cannabis use and adult hard drug use (Morral, McCaffrey & Paddock, 2002b). The use of cannabis is widespread in adolescent populations (Hall, Johnston and Donnelly, 1999), with those who begin use earlier being particularly at risk from using harder drugs later in life (Fergusson & Horwood, 1997; Kandel & Yamaguchi, 1993). Heavy cannabis use in adolescence is the single best predictor of adult cocaine use (Kozel & Adams, 1986), and crack-cocaine users begin using cannabis particularly early (Kandel & Davies, 1996). The age of adolescence may play a particularly important role in observed gateway effects (Kandel et al. 2006), which are strongest during adolescence (Fergusson et al. 2006). Animal studies (Klein, 2001) suggest that adolescent brains may be especially vulnerable to the adverse effects of cannabis use in terms of later drug addiction; adolescent rats exposed to nicotine are particularly vulnerable to self-administer opioids in adulthood (Klein, 2001), and this may also occur for cannabis.

The finding that earlier contact with cannabis increases use of other drugs is a consistent finding (Hall, 2006), but does cannot explain the specific causal mechanism involved. Adolescent cannabis users may be particularly at risk of later hard drug use through a number of mechanisms, for example increased risk-taking behaviors, cross-sensitization, effects on the dopaminergic system, or effects on corresponding social behavior. However, such explanations have not been fully explored. Thus whilst adolescents seem to be at an increased risk of the gateway effects of cannabis use, the specific causal mechanisms involved are still unclear. Furthermore it is possible that common factors such as delinquency may increase the risk both of early cannabis use (i.e. in adolescence), and using hard drugs in adulthood.

Neurological and psycho-pharmacological explanations. It has been suggested that the use of cannabis induces biochemical changes in the brain which increase drug-seeking and drug-taking behaviors (e.g. Nahas, 1990). Cannabis may sensitize dopaminergic reward pathways in the brain, which sensitizes the user to the effects of later drug use (Ellgrena, Hurda, & Franck, 2004). Gessa, Melis, Muntoni & Diana (1998) found that exposure to D-9-tetrahydrocannabinol (THC) increases the firing of mesolimbic dopaminergic neurons, and Tanda, Pontieri and Di Chiara (1997) found increased dopamine levels in the nucleus accumbens after cannabis exposure, suggesting that cannabis use increases levels of dopamine and subsequently

effects the mesolimbic reward circuits (Ellgrena et al., 2004). Thus cannabis could have a gateway effect through its effects on the dopamine system; increasing the reinforcing properties of drugs, and therefore increasing the risk that they will be abused in the future.

Cannabinoids have also been found to lead to cross-sensitization with amphetamines (Muschamp & Siviy, 2002) and opiates (Lamarque, Taghouzti & Simon, 2001), thus increased sensitization could increase the reinforcing effects of harder drugs, which would lead to an increased risk of abuse. Cannabis and opiates may in fact have comparable influences on dopamine transmission in the brain through shared receptors (Tanda et al. 1997), thus cannabis and heroin may in fact have similar effects on users. However, these explanations may be inadequate, as relatively low doses of cannabis still appear to have a gateway effect (Lynskey et al. 2006), and it may be that cannabis gateway effects are caused by a combination of psycho-pharmacological and social factors (MacCoun, 1998). Furthermore, such explanations do not explain why the gateway effects of cannabis do not occur for all users, and cannot account for the large number of factors that can mediate the relationship.

Mediating factors and evidence for an indirect causal relationship

There is a large body of evidence that suggests that a number of variables may explain or mediate the relationship between cannabis and harder drugs. This evidence suggests that the relationship between cannabis use and harder drug use is an indirect causal relationship, with a number of additional variables explaining or mediating the relationship.

Correlated liabilities model. A number of authors have argued that the relationship is not causal, and simply exists because of common factors that increase the vulnerability of using both cannabis and hard drugs (e.g. Morral, McCaffrey & Paddock, 2002a). This 'correlated liabilities' model proposes that cannabis use and subsequent harder drug use are influenced by shared genetic and environmental factors that predispose individuals to both cannabis use and hard drug use (e.g. Fergusson & Horwood, 2000). Agrawal, Neale, Prescott and Kendler (2004a) studied thirteen models of co-morbidity applied to cannabis and harder drugs, and found that the correlated liabilities model fitted the best. However, they also found evidence in favor of the 'extreme multiformity model'. This is based on the severity of risk; those above a certain underlying risk of drug use are more likely to use harder drugs after using cannabis. For those with lower risk, using cannabis makes no difference to the subsequent risk of hard drug use.

This then has similar assumptions to the gateway hypothesis, however it suggests that a gateway effect may only occur for those who are already pre-disposed to heavy drug use and addiction. Therefore cannabis only indirectly increases the risk of hard drug use as its effects are mediated by an underlying predisposition to drug use. However, the correlated liabilities model still does not explain the specific causal mechanisms involved in this relationship, and it is possible that this is simply a mediating factor; cannabis has a direct gateway effect, and this effect is simply stronger in some users then others.

Environmental factors. A number of environmental factors have been suggested to influence the relationship between cannabis and harder drugs. Peer drug use and peer pressure may increase the likelihood of cannabis users moving on to harder drugs (MacCoun, 1998; Barkley, Fischer, Smallish & Fletcher, 2004). Individuals may progress from cannabis to harder drugs as part of changes to a more deviant lifestyle during adolescence (Donovan, Jessor & Costa, 1988), a process which in itself increases all types of drug use (Osgood, Johnston, O'Malley & Bachman, 1988). Kokkevi, Richardson, Florescu, Kuzmanf and Stergar (2007) found that antisocial behavior, depression, peer relationships, school, family life and drug use of peers and siblings were all individually related to drug use, suggesting a number of factors that can influence the progression of drug use. Lessem et al. (2006) found that whilst cannabis use was related to harder drug use, this relationship was mediated by a number of environmental factors, in particular the home environment. A high-level of risk-taking behavior has also been shown to increase susceptibility to both cannabis and hard drug use (Huba, Wingard & Bentler, 1981) as do childhood psychiatric problems (Barkley, Fischer, Smallish & Fletcher, 2004), and behaviors problems such as conduct disorder (Clark, Kirisci & Moss, 1998).

Thus, a number of environmental variables affect the risk of drug use, variables which may be common factors that explain the gateway effects of cannabis on the subsequent risk of hard drug use. However, these variables cannot entirely discount the possibility of a direct causal relationship between cannabis and hard drug use, and may simply be mediating factors, which make some individuals more prone to the gateway effects of cannabis than others.

Exposure to the black market. It has been argued that the relationship exists simply due to cannabis use increasing the availability of other drugs (e.g. Wagner & Anthony, 2002). This concept is the main logic behind the legalization of cannabis in the Netherlands; to separate the markets for cannabis and hard drugs. This approach appears to have been at least somewhat effective; the risk of cocaine use as predicted by previous cannabis use is lower in the Netherlands than in America (Morral, McCaffrey & Paddock, 2002b), and cannabis users in the Netherlands seem less likely to move on to harder drugs, moving on mainly to recreational drugs such as ecstasy, and being less likely to become subsequently addicted (Cohen & Sas, 1997).

Such findings suggest that the drug of cannabis does not directly lead on to harder drug use, rather it is the changes in user's social environments that explain the relationship. Cannabis users often become involved in social networks with hard drug users, increasing access to hard drug dealers (Fergusson, Lynskey & Horwood, 1993), and

therefore availability of hard drugs is increased, as is the risk of use (MacCoun, 1998). Twins studies controlling for genetic and environmental risk factors have replicated this finding (Lynskey et al. 2006).

Exposure to hard drugs may also influence other factors. For example, a pre-existing vulnerability to use drugs is mediated by subsequent opportunities (Morral et al. 2002b) which are related to personality and previous experiences (Wagner and Anthony, 2002). Exposure to harder drugs through social mechanisms can account for the observed relationship, a finding which negates the direct causal effect of cannabis as a drug. It seems that cannabis use as a lifestyle may impact on the risk of hard drug use, rather than cannabis as a drug having a direct impact. This argument clearly explains the specific mechanisms involved in drug progression; cannabis has its gateway effects indirectly through corresponding social changes. However, it is possible that exposure to hard drugs represents just one of a number of potential gateway effects of cannabis, and this exposure to the hard drug market may simply mediate the effect of pre-existing vulnerabilities.

Genetic factors. Evidence from genetics has given the correlated liabilities model support, suggesting that there is a genetic overlap between risk of the use of cannabis and hard drugs (Tsuang et al. 1998). This suggests that progression of use from cannabis is predicted by underlying genetic vulnerabilities to abuse, rather than cannabis having a direct causal effect. Agrawal, Neale, Prescott and Kendler (2004b) claim that genetic factors may make some cannabis users 'high-risk' and increase the likelihood that they will progress to harder drugs.

A genetic basis for drug use in general, irrespective of specific drug types has been found (Tsuang et al., 1998), though this is mediated by subsequent exposure (Kendler, Jacobson, Prescott & Neale, 2003). Up to 60% of the variation in cannabis use can be attributed to genetic factors (Kendler et al., 2003), including subsequent dependence (Lynskey et al., 2006), and a common genetic vulnerability may account for the relationship between cannabis and hard drug use (Tsuang et al, 1998). Morral et al. (2002a) found that drug use propensity; a general tendency to use drugs, exists regardless of specific drug types, and once accounted for, makes any statistical relationships between cannabis use and later hard drug use non-significant. However, some twin studies still find a relationship between the two (e.g. Lynskey et al. 2003) suggesting the relationship cannot be entirely accounted for by genetic factors.

Thus genetic factors may explain in part the progression from cannabis to hard drug use. However, it seems that an increased genetic vulnerability to drug use may simply exacerbate the gateway effect of cannabis. Genetic factors cannot entirely explain patterns of drug progression, as they are mediated by environmental factors, i.e. exposure to cannabis. Thus cannabis may still have a direct causal relationship to later hard drug use, with the strength of such a relationship being increased in those who are already genetically vulnerable to hard drug use.

Alcohol and tobacco as gateway drugs. It has been suggested that alcohol, tobacco and cannabis are all 'gateway' drugs, and pointed out that cannabis is in fact the least prevalent of these (Morral et al. 2002b). Cannabis and alcohol are often used together (Williams & Mahmoudi, 2004), and may be used as substitutes for one another (DiNardo & Lemieux, 2001). Prior use of alcohol has been found to increase the risk of later cannabis use (Pacula, 1998) and early alcohol use is associated with later drug dependence (McGue, Iacono, Legrand, Malone, & Elki, 2001). Grant et al. (2005) found a link between regular alcohol use and cannabis and other drug use, regardless of shared genetic and environmental factors, suggesting that unique environmental factors contribute to the transition from adolescent alcohol use to adult drug use.

Cannabis use is also often co-morbid with tobacco use (Farrelly, Bray, Zarkin & Wendling, 2001), and prior use of tobacco has been found to increase the risk of later cannabis use (Pacula, 1998), in particular in adolescent years (Clark et al., 1998). A causal gateway has been suggested from tobacco to cannabis, which may be stronger than the gateway from cannabis to other drugs (Beenstock & Rahav, 2002). Tobacco may be a stepping-stone to cannabis and hard drugs (Lai, Lai, Page & McCoy, 2000), though others (Humfleet & Haas, 2004) suggest the opposite.

Thus it seems that alcohol and tobacco may be stepping-stone drugs to cannabis. If this is the case, then it suggests that these may in fact be the most important 'stepping-stone' or 'gateway' drugs in the hierarchy of drug use progression. Thus cannabis may not have a direct causal impact on increasing the risk of hard drug use, but may simply be part of a 'chain-reaction' of gateway drugs, with tobacco leading to cannabis use, which eventually leads on to hard drug use.

Methodological considerations

This topic demonstrates the complexity of showing causality in non-experimental data (Kenkel & Mathios, 2002). Relevant experiments typically rely on non-experimental or quasi-experimental data with which it is very hard to establish causality (Heckman, 2005). It is not possible to control for all variables that could mediate this relationship (Kandel, 2003; MacLeod et al., 2004), and many studies ignore third-factor variables, mistaking correlation for causality (Beenstock & Rahav, 2002).

Controlling for confounds can still not demonstrate causality (Kandel & Jessor, 2004), and showing causality still does not explain the specific mechanisms involved (Fergusson et al., 2006). Neale and Kendler (1995), developed 13 models of co-morbidity, which have been applied to this topic (Agrawal et al., 2004a), yet these models have rarely been used in experiments of this topic. These methodological difficulties can perhaps account for the discrepancies in the literature regarding the gateway effects of cannabis, and

highlight the importance of not taking statistical significance as evidence of causality.

Are there multiple causal mechanisms?

There are many variables that could cause or mediate the relationship between cannabis and harder drug use. One overview (Kandel & Jessor, 2004) suggests that there is no support in the literature for causality in the progression of drug use, and taking unmeasured variables into account reduces this relationship, though it still stays significant (Fergusson et al. 2006). Many of the factors outlined in this paper may mediate the relationship, however it is unlikely that they cause or account completely for the relationship, (Fergusson & Horwood, 2000), and so a possible direct causal relationship cannot be ruled out.

This paper has reviewed a number of theories and explanations for the gateway effects of cannabis. Whilst there is clearly at least a moderate statistical relationship between cannabis use and hard drug use, the exact causal mechanisms remain unclear. There is evidence to suggest that cannabis may have direct neurological and psycho-pharmacological effects such as cross-sensitization to future drug use, further supported by dose-effects observed in the relationship. Further there is evidence that such effects are strongest during adolescence when the brain is still developing, again suggesting a neurological mechanism.

However, there are also explanations of an indirect relationship, with the correlated liabilities and extreme multiformity models suggesting that an underlying predisposition to heavy use and hard drug use in general explain the relationship. There are also a number of environmental factors such as peer group influences and delinquency which may account for, or at least partially mediate the relationship. Observed statistical relationships may also be explained by the social changes that occur due to cannabis use, such as exposure to the black market. Furthermore, genetic factors may partially explain or mediate the relationship, and the potential of alcohol and tobacco to lead to later cannabis use calls into question whether cannabis is the initial gateway drug of abuse, or simply part of a 'chain reaction' of gateway effects in the hierarchy of drug use progression.

Thus, there are a number of potential mechanisms by which cannabis use increases the risk of later hard drug use, both directly and indirectly. The question arises ,then, of what exactly constitutes a direct causal relationship? If cannabis has its gateway effect through indirect social mechanisms, is it still not a gateway drug? Or does it have to be due to the direct psycho-physiological effects of cannabis for such gateway effects to be labeled as causal? This is a point which seems to have become confused and received little attention in the literature; what specifically constitutes a direct causal relationship in this topic?

An additional point is that all of these potential causal pathways seem to have at least some evidence in the literature. Therefore it is plausible that the gateway effects of cannabis are not solely through one specific mechanism. For example, cannabis could increase the risk of later hard drug use through a combination of social and psycho-physiological mechanisms, and such a relationship could be both accentuated and mediated by a number of additional genetic and environmental variables.

Thus instead of a single-factor stepping-stone or gateway explanation of this topic, a more accurate approach may be to adopt what Davidson and Neale (2000) label a 'network theory'; a theory which suggests that a large number of complicated variables are involved in the relationship, making causal relationships extremely hard to establish. However, it is accepted that each may have an influence. A method of testing this perhaps would be to use multiple regression equations taking into account a number of such factors as independent variables, with the dependent variable being hard drug use. This paper predicts that by using such equations an even stronger statistical relationship between cannabis use and hard drug use will become apparent.

Conclusion

This paper has reviewed and evaluated a number of potential explanations for the 'gateway effects' of cannabis increasing the risk of later hard drug use. There are a number of different potential causal mechanisms involved, including direct psycho-physiological and neurological effects of cannabis, social changes and the effects of cannabis on the vulnerable adolescent brain. There are also a number of social and genetic factors which may mediate the relationship, both aggravating and mediating the gateway effects of cannabis.

Whilst there is at least modest evidence for most of these causal mechanisms, there is largely disagreement and confusion in the literature as to whether the gateway effects of cannabis are direct or indirect. However, there also appears to be considerable confusion over what specifically constitutes a direct causal effect. This paper concludes, based on the available evidence, that cannabis has its gateway effects through a large number of variables, and any one explanation is likely to be inadequate. Furthermore, this relationship is mediated by a number of variables, such that a 'network theory', is likely to be the most useful in guiding future research in this area.

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Ψ

The Moderation Effect of Career Stage on the Relationship Between Age, Organizional Commitment and Job Satisfaction

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Abstract--*This study looked at how age is related to job satisfaction and organizational commitment with career stage as the moderator variable. Age, job satisfaction, organizational commitment and career stages are defined according to previous research. Previous studies show older workers are more satisfied with their jobs than younger workers and that they are more committed to the organization. The purpose is to better understand what motivates employees' attitudes towards work. As a younger population of employees enters the workforce, it is important to know what motivates them and if these employees are fundamentally differently from the already existing population of older workers. This study proposes that employees' career stages will moderate the relationship between age and job satisfaction or organizational commitment. The main question was, "Are individual's work attitudes influenced more by age or do they differ based on the career stages the individuals are experiencing?". This study tested the proposition that younger employees at early career stages will have higher job satisfaction than middle aged employees at early career stages. Younger employees at early career stage will have lower organizational commitment than middle aged employees at early career stage. To do this study a survey was conducted on 89 education graduate students. The findings of this study show that Hypothesis 1 was supported. Career stage weakly moderated the relationship between age and job satisfaction. However, Hypothesis 2 was not supported; career stage did not significantly moderate the relationship between age and organizational commitment. Findings of this study support previous findings that career stage moderates the relationship between age and work attitudes.*

Work values are the evaluative standards relating by which the employees assess the work environment (Smola & Sutton, 2002). Organizational commitment is the attachment an employee has to his or her organization. Job satisfaction is an employee's attitudes and feelings about his or her job and different facets of the job.

How do work attitudes change with age? Studies have shown (Meyer, Stanley, Herscovitch & Topolnytsky, 2002; Sarker, Crossman & Chinmeteepituck, 2003; White & Spector, 1987) that older workers are more satisfied with their jobs than younger workers and that they have higher affective and normative commitment to the organization than their younger counterparts. However, previous research suggests that career stage may moderate the relationship between workers' age and their work attitudes (Riordan, Griffith & Weatherly, 2003). The purpose of this paper is to analyze relationships between age and job satisfaction and age and organizational commitment and how or if they are affected by an employees career stage.

The relationship between different age groups in the work place is more complicated than what the stereotypes describe. Not all older workers have progressed in their careers and not all young workers are in the beginning stage of their careers. Thus, organizational commitment and job satisfaction may differ not only due to employees' age but also their particular career stage. This information on how age relates to organizational commitment and job satisfaction may provide managers with useful insight into how to coach and retain their employees. If the relationship between age and job attitude is moderated by an employee's career stage, it is beneficial for the manager to get to know their employees better and determine which career stage he or she are in. For example, for an older employee in a later career stage the manager would not need to provide as much coaching and direction as they would for an employee of the same age who is at an early career stage. Thus, before making assumptions about work attitudes are based on employee's age, managers should understand other circumstances that surround the employees better. Knowing these factors about an employee will help the manager cater to individual needs of the employee, thus retaining the workforce while increasing their organizational commitment and job satisfaction. In the following sections organizational commitment and job satisfaction will be discussed followed by the research on age and career stage.

Organizational Commitment

Organizational commitment can be broadly defined as the attachment a person has to his or her organization (Spector, 2003). Organizational commitment includes an employee's acceptance of the organization's goals, his or her willingness to work hard for the organization, and his or her desire to stay with the organization. There are three types of organizational commitment: affective, continuance, and normative (Meyer el. al., 2001; Spector, 2003).

Affective commitment is commitment in which the person has an emotional attachment to his or her organization. Affective commitment comes from job conditions and met expectations. Continuance commitment is based on the investments an individual has in his or her organization, like a pension or seniority (Meyer el. al., 2001). Continuance commitment means that an employee remains with the organization because he or she needs the benefits or simply because they cannot find a better job. Continuance commitment comes from the benefits accrued and from the lack of alternative jobs. Employees who think that their skills or expertise will not transfer to another organization may have high continuance commitment. High continuance commitment may leave the employee feeling "trapped" in the organization. Because young employees and those in early career stages have not acquired organization-specific skills, they are not likely to face this problem (Meyer el. al., 2001). Normative commitment is commitment in which a person feels obligated to the organization. Normative commitment is based more on the intrinsic values of an employee, their values and feelings of obligation to the employer (Meyer el. al., 2001).

Work experience correlates positively with organization commitment (Meyer et. al., 2001). This means that the more work experience a person has the more likely they are to be committed (especially affective commitment) to their organization. For example, older employees are usually more progressed in their careers and have higher levels of affective commitment. Organizational commitment is also positively related to job performance and negatively related to turnover (Scandura & Lankau, 1997).

Job Satisfaction

Job satisfaction refers to employee's attitudes and feelings about his or her job and aspects of the job. It is the degree to which an employee feels positive or negative about the intrinsic and extrinsic characteristics of the job (Bulent & Shahid, 2004) or simply the extent to which people like or dislike their job. Studies show that job satisfaction is related to both attributes of the job and of the individuals themselves. Job satisfaction is dependent on pay, workload, job stress, control, work schedules, and personality traits. Some employees have low job satisfaction throughout their careers in part because of their personality. They are chronically unhappy about their jobs (Brush, Moch & Pooyan, 1987).

Age

The American workforce population today is the largest it has been in the past fifty years. Baby boomers are the largest group of the workforce population, comprising forty percent of the population and twenty percent of the workforce (Karoly & Panis, 2004). The Baby Boomer population places the highest value on family followed by work. "Baby boomers" grew up in the aftermath of WWII, during the Cold War, Korea and Vietnam (McCafferty, 2003). "Boomers" tend to have lack of respect towards authority and social institutions. This generation currently faces the difficult task of caring for their parents as well as for their children. Because of these high financial responsibilities, money is very important to this group of people. Especially the company's overall job packages and retirement plans. A challenge for this group is all the emerging technology (McCafferty, 2003). After spending much of youth protesting against power, they find themselves currently entering positions of corporate responsibility and national power (Smola & Sutton, 2002).

Recent studies have questioned the changes of work attitudes in the incoming workforce population of "Generation Y" and how it is different from its' older counterparts. Generation Y is classified by ideas of modern liberalism and radical individualism. This generation also displays a return to tradition and family values (McCafferty, 2003). The younger generation is classified for the need to reward innovation, make public displays of success, and support personal growth and career opportunities. Loughlin and Barling (2001) identify several issues in employment for the emerging workforce population, non-standard employment, leadership, occupational health and safety.

Loughlin and Barling (2001) looked at what shapes young people's work attitudes and concluded that parents shape some attitudes and others are acquired through personal work experience. Children's work attitudes are shaped by parent's employment and financial situations. Young people's perceptions of work are developed early based on what they see their parents experience (Loughlin & Barling, 2001). Several researches indicate that Generation Y has seen their parents laid off, unemployed, or switch companies, jobs and even careers at various stages in their lives (Loughlin & Barling, 2001; Smola & Sutton, 2002). To many Yers, their parents are the primary representatives of the Boomer generation. After having watched their parents struggle with the job market and be treated unfairly by their employers, Yers are reacting with behaviors opposite of those that characterize the Boomer generation workers.

Thus, their work attitudes may reflect a need for constant self re-innovation in career or need to switch jobs frequently to avoid being laid off.

These two groups of workers tend to stereotype each other based on age and attribute certain psychological, physical, and intellectual capabilities with these stereotypes. The reality is that most employees progress through their careers and acquire outside responsibilities at about the same pace regardless of age or generational cohort (Jurkeiwicz, 2000). Finegold, Mohrman and Spreitzer (2002) have found more similarities than differences in work attitudes between the different age groups. One exception, in these attitudes is willingness to switch employers; the willingness to turnover is higher for younger workers than to older workers (Finegold, Mohrman & Spreitzer, 2002). Because willingness to turnover is related to organizational commitment, we can expect employees with lower organizational commitment to have higher turnover rates.

Smola and Sutton (2002) looked at the differences in work attitudes between Boomers and Gen Yer's and found that work attitudes change as workers grow and become more mature. Because of the changes in work attitudes human resource professionals are advised to approach younger workers differently than they would their older counter parts even if their career level is the same. Finegold and colleagues (2002) suggest that today many individuals restart their careers at later life stages and thus the age differences in work attitudes may be fading among workers.

A study by Mulvey, Ledford and LeBlanc (2000) examined the employees' attitudes toward monetary and non-monetary rewards of the job. Their proposed "Rewards of Work" model focused on employees' attitudes towards affiliation, work content, career and direct and indirect financial benefits. Respondents found direct monetary rewards to be the most important reward of work. The research on rewards of work found that attitudes of Generation Y employees towards the five proposed foci are not significantly different than the attitudes of the "baby boomers". The study also found that in general U.S. employees are generally satisfied with their jobs and their employers (Mulvey, Ledford & LeBlanc, 2000).

Organizational commitment is strongly correlated with job satisfaction (r = .49). However, the relationship between organizational commitment and age is mixed. Some research shows it as a weak negative relationship (r = -.20) (Mathieu & Zajac, 1990), while other research shows it as a weak positive relationship (r = .15) (Meyer, Stanley, Herscovitch, & Topolnytsky, 2001). Research is more consistent with job satisfaction. Most research shows a positive relationship between job satisfaction and age (r = .22) (Brush, Moch & Pooyan, 1987). However, some studies have found that job satisfaction declines with age until a person reaches late 20s or early 30s and then increases progressively after that (Birdi, Warr & Oswald, 1995).

Sarker, Crossman, and Chinmateepituck (2003) examined how job satisfaction relates to age and tenure. The study found that overall job satisfaction increased with age. The study also found that overall job satisfaction increased with length of service. This is explained by the fact that employees who were unsatisfied with their jobs have left the organization or are still lurking in the lower tenure range (0-5 years). Exploring the relationship between age and tenure the study found that it was U-shaped. Job satisfaction declined in the tenure group of 6-10 years. The study concluded that age and tenure are linked together, especially in the high tenure ranks which young employees have not had the chance to achieve. Increases in tenure were found to be liked to increases in age. Clark, Oswald, and Warr (1999) found that workers with longer tenure have higher job satisfaction because they have found the career they like and perhaps even found a path that would lead to promotion. Those workers are more satisfied with their job and more committed to the organization.

There are conflicting findings about the relationship between organizational commitment and job satisfaction with age. Some research shows that the relationship is positive (Meyer et. al., 2001; Siu, Lu, & Cooper, 1999; Brush, Moch & Pooyan, 1987; Sarker, Crossman, and Chinmateepituck, 2003) and other research shows that the relationship is negative (Mathieu & Zajac, 1990; Riordan, Griffith, & Weatherly, 2003). Why are there such large discrepancies on the relationship between organizational commitment and job satisfaction with age in the research literature? I believe that prior research is focusing too narrow on the subject without considering possible influencing factors. I proposed that the relationship varies because it is influenced by the employee's career stage.

Career Stages

A career can be defined as the sequence of job-related experiences throughout a person's work life. Career stage theory assumes that people progress through different stages during their careers. Studies have found that work attitudes change across career stages (Lynn, Cao, & Horn, 1996; Bulent and Shahid, 2004). It is assumed that people in the same career stage have similar work attitudes.

In this study we will use Super's theory of career development stages (Super, 1957). Super's model has four development stages, but an employee doesn't necessarily have to go through each stage in progression. Instead, an employee can come back to a career stage or even start over at different periods of his or her life. An employee can recycle through these stages when major

changes occur like changing one's job, company or occupation. Thus, the career development stages do not necessarily increase with age, although it is impossible for a young employee to be in the last career stage. Super's model is determined on individual's current circumstances. The four stages are trial, establishment, maintenance, and decline.

During the trial stage an employee identifies his or her interests, capabilities and fit between self and work. In the trial stage employees spend time trying out new things, learning the skills, networking and gaining acceptance. Career advancement is not as important as learning the trade in this stage (Veiga,1983). Employees in this stage are less committed to their organization and less satisfied with their work.

During establishment stage and employee's commitment to the career increases and they seek career advancement. Employees seek opportunities for promotion, progression, stabilization and growth. Employees at this stage have more vested in their organizations, including benefits as well as contributions they have made to the organization. They want to stay and grow within the organization. However, some employees may still switch organizations if they identify that their promotion goals will not be reached at their current position (Veiga, 1983).Employees in this stage are greatly committed to the organization and have high job satisfaction.

During maintenance stage an employee holds on to the accomplishments already achieved. In maintenance stage employees focus on fitting their personal values with company values and factors outside of work, like location and cost of living (Finegold, Mohrman & Spreitzer,2002). In this stage employees are less competitive and focus on developing relationships and strengthening the organization. Employees in this stage tend to have the same level job attitudes as in the establishment stage.

During decline stage an employee develops a new self-image that is independent to career success and more reliant on personal life. Career progression is not a likely concern to this group, because many of them have reached their desired potential and have plateaued in their advancement opportunities. Employees in this stage are withdrawing from their jobs or careers and have less positive job attitudes. At this pre-retirement stage, employees are not likely to switch organizations because they have established strong relationships and contributions in the work place and have the highest investment in accrued benefits (Veiga, 1983). As an employee progresses throughout his or her career the focus moves from learning to promotion and better benefits, to finally disassociation from the workforce.

Super (1957) also defines several career patterns: the stable career pattern, the conventional career pattern and the unstable career pattern. Stable career pattern is when employees finish school or college and get into the type of work they follow throughout their lives, thus skipping the trial stage. The conventional career pattern is when the employees go through a series of jobs before settling down on a career. Employees go through all the career stages in this pattern. The unstable pattern is when the employee works in a field of his choice for some time and then decides he or she is unhappy and looks for a different line of work. In this pattern, employees go through trial and establishment career stages and then revert back to trial. The career stage model presents a promising explanation to the difference in findings on the relationship between age and organizational commitment and job satisfaction.

A study by Ornstein, Corn and Slocum (1989) looked at the effects of age and career stage on employees' job attitudes. The study used Super's career stage model to measure career effects and Levinson's life stage model to measure age effects. The study found that Levinson's model accounts for employees' attitudes towards events outside of work and Super's model accounts of attitudes directly related to work. The study found support for lower organizational commitment and job satisfaction during the trial career stage. The study also found that age generally increased from trial stage to decline stage, but during establishment and maintenance stages ages the ranges of employees' age were very close together.

Younger individuals and individuals in early career stages are expected to have lower organizational commitment (Finegold, Mohrman & Spreitzer, 2002). For one reason, employees who are primarily entering the workforce have different responsibilities than individuals who have been in the workforce for some time. Younger people are more concerned about career advancement because their careers lay ahead of them, while older workers are less concerned about career advancement because their careers are in sight (Mulvey, Ledford & LeBlanc, 2000). Finegold, Mohrman & Spreitzer (2002) also suggest that young employees who are just entering the workforce are less committed to the organization and are more willing to switch employers to gain new skills in their field.

Morrow and McElroy (1987) found that age explained variance in job satisfaction better than professional tenure (i.e. career stage). Riordan, Griffith and Weatherly (2003) found that the effects of age were moderated by pay and job status, full-time or part-time. Pay and job status were found to correlate positively with career stage. Lower pay and lower job status are usually associated with early career stage and higher pay and job status are usually associated with later career stage. Research has found that as individuals age they often move into more challenging work assignments, receive respect and gain credibility all of which enhance their job

satisfaction (Rhodes, 1983). If individuals do not gain those things as they age and if they do not progress in their careers it can be expected that their job satisfaction will be compromised. Older employees in later career stages receive challenging work assignments and perks associated with tenure and status.

Older employees in early career stages compare themselves to their older counterparts with higher status and feel underappreciated or unsuccessful and thus less satisfied with their careers. Riordian and her colleagues (2003) found that overall, in a group of nurse, age correlated negatively but weakly with organizational commitment (r = -.20) and job satisfaction (r = -.18). However, age was positively correlated with both organizational commitment and job satisfaction when pay was the highest. Both organizational commitment and job satisfaction increased positively for the highest paid employees, but both decreased with age for the lowest paid employees. The study demonstrates that organizational commitment and job satisfaction do not necessarily increase with age. For the lowest paid employees both of these factors decrease with age, and only for the highest paid employees they increase with age.

Studies (Lynn, Cao, & Horn, 1996; Pogson, Cober, Doverspike, & Rogers, 2003) also suggest that the change in job satisfaction may be due to an entrance in a new career stage. After having passed through the establishment stage a candidate may have finally found the "right job" and settled on a career path that fits them best. The change in attitude may also be due to the fact that older workers are in the later stage of their careers and value different aspects of the job environment than their younger counterparts. For example, instead of learning and innovation, they put more value into work-life balance and employee benefits.

This study considers how the concept of age relates to employee's work values, specifically, organizational commitment and job satisfaction. It examines how career stages moderate the relationship between age and organizational commitment and job satisfaction. We are looking to see how individuals' work values interact with age and career stage.

Therefore, I propose the following hypotheses:

H1: Younger employees at early career stage will have higher job satisfaction than middle aged employees at early career stage.

H2: Younger employees at early career stage will have lower organizational commitment than middle aged employees at early career stage.

Methods

Participants

Eighty nine education graduate students from University of North Carolina at Charlotte participated in this study. There were 76 female participants and eleven male participants. The age range was between 23 and 57 years old. Subjects were reached with permision of department head and other professors at the College of Education Department for Graducate students. Professors in the College of Education who teach graduate level classes were contacted and asked for permission to survey their students. After permission was granted, the students in class were asked to participate in the study. The students were told that there is no penalty if they do not choose to participate. One questionnaire instrument was used that combined all four of the measures.

Measures

Age. Chronological age was obtained by asking participants to report their age in years.

Career Stage. Career stage was measured by Super's (1985) Adult Career Concerns Inventory. The inventory has 61 items total (15 items per career stage). A sample item is: "Becoming a dependable producer". Participants were asked to indicate how concerned they are with this particular statement at their current position. The items are rated on a 5 point scale (1= no concern, 2 = little concern, 3 = some concern, 4 = considerable concern, 5 = great concern). Items 1-15 determined the exploration career stage. Reliability for Career Stage 1 was .95.

Organizational Commitment. Organizational commitment was measured with Meyer and Allen's (1997) instrument which measures the three types of organizational commitment: affective, continuance, and normative. There are six items for each type of commitment. A sample item affective commitment is: "I would be very happy to spend the rest of my career with this organization" or "I enjoy discussing my organization with people outside of it". A sample item of normative commitment is: "I think that people these days move from company to company too often" or "I was taught to believe in the value of remaining loyal to one organization". A sample item of continuance commitment is: "Too much of my life would be disrupted if I decided I wanted to leave my organization now" or "It wouldn't be too costly for me to leave my organization right now" (both are reverse scored).The items were rated on a 7-point Likert-type scale (1= strongly disagree and 7= strongly agree). The reliability for the organizational commitment scale is .80.

Job Satisfaction. Job satisfaction was assessed with Spector's (1997) 36 item measure that describes nine job foci (four items per focus). A sample item is: "I feel I am being paid a fair amount for the work I do." The items are rated on a 6-point Likert-type scale ranging from 1 (disagree) to 6 (agree very much). The reliability for the job satisfaction scale is .91.

Results

The means, standard deviations, and ranges for the major variables in this study are presented in Table1. The average age was 30 (SD = 7.56); the average organization tenure was 4 years (SD= 2.56). Correlations of the variables in this study are presented in Table1.

Table 1
Descriptive Analyses and Correlations for Age, Tenure, Hours Worked, Job Satisfaction, Organizational commitment, and Career stages.

	Mean	SD	*1*	*2*	*3*	*4*	*5*	*6*
1. Age	30.18	7.56						
2.TenureY	4.01	3.92	.60**					
3. HoursW	46.52	14.09	.23*	.26*				
4. Job sat	3.67	.67	-.05	-.20	-.18			
5. Orgcom	3.93	.70	-.10	.01	.24*	.34**		
6. Stage 1	3.25	1.07	-.13	-.09	-.10	-.17	.01	

* p<.05 ** p<.01 *** p< .001

The table indicates that organizational commitment had a positive relationship with Stage 2 (Establishment Career Stage), r = .25, p <.05, and a positive relationship with Stage 3 (Maintenance Career Sate), r = .26, p < .05. There was no significant relationship between age and job satisfaction or organizational commitment.

The hypotheses were tested using regression analyses. To test Hypotheses 1, I ran two step hierarchical regression, analyzing the relationship between job satisfaction and age for early career stage. In the first step, I entered the standardized early career stage and standardized age. These variables were standardized according to current moderation analyses (Shrout & Bolger, 2002). In the second step, I entered in the moderation term, the product of age and the career stage. The results are in Table 2.

First, there was no direct relationship between age and job satisfaction but Stage 1 appears to have a negative relationship to job satisfaction (˜=-.22, p=.06). This means that older workers are less satisfied with their job. There is a reliable interaction between age and career stage on job satisfaction in Stage 1 (˜=-.21, p=.07), which is shown in Figure 1. This is, changes in job satisfaction were weakly affected when age was moderated by career Stage 1, the exploration stage (r = .06).

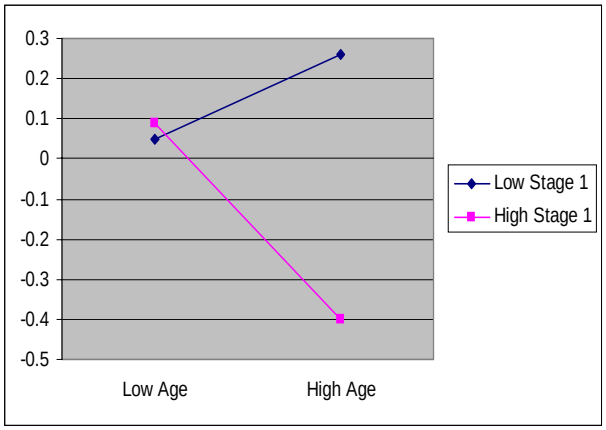
The same strategy was used to test Hypothesis 2. I ran two hierarchical regressions, analyzing the relationship between organizational commitment and age for each of the three career stages. In the first step, I entered the standardized career stage and standardized

Table 2
Summary of Hierarchical Regression for Job Satisfaction for Stage 1

Variable	B	SE B	â	R^2	Ä R^2
Step1					
Age	-.06	.08	-.09		
Stage 1	.-15	.08	-.22^t	.01	.05
Step 2					
Age	-.07	.08	-.10		
Stage 1	-.16	.08	-.23*		
Age X Stage1	-.18	.10	-.21^t	.01	.05

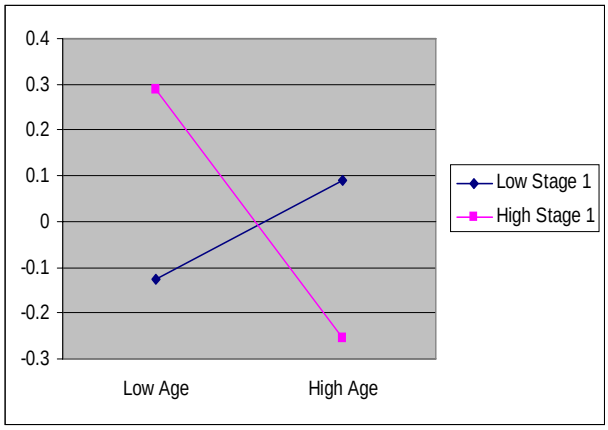
Note: * p<.05.

Figure 1
Job Satisfaction, Stage 1 Exploration



Note: *N* = 87; * indicates significance level at p<.05; ** indicates significance level at p<.01;
*** indicates significance level at p< .001

Figure 2
Organizational Commitment, Stage 1 Exploration



Note: *N* = 87; * indicates significance level at p<.05; ** indicates significance level at p<.01;
*** indicates significance level at p< .001

age according to current moderation analyses (Shrout & Bolger2002). Second step, I entered in the moderation term, the product of age and career stage. The results are in Table 3. Changes in organizational commitment were weakly affected when age was moderated by career stage1 (r = .06).

Discussion

The purpose of this study was to examine if job satisfaction and organizational commitment are moderated by the age and career stage of the employee. The major hypotheses of this study was that younger employees will have higher job satisfaction in early career stages than older employees and that younger employees will have lower organizational commitment than older employees in early career stages. These hypotheses were tested by doing moderation regression on age, early career stage and job satisfaction and organizational committment.

Table 3

Summary of Hierarchical Regression for Organizational Commitment for Stage 1

Variable	B	SE B	â
Step 1			
Age	-.07	.09	-.10
Stage 1	.02	.08	.03
Step 2			
Age	-.08	.08	-.11
Stage1	.02	.08	.03
AgeXStage1	-.19	.10	-.21[t]

Note: R^2 = .01 for Step 1. Ä R^2 = .05, p=.06 t p=.06.

First, there appeared to be no direct relationship between age and organizational commitment. However, there is reliable interaction between age and career stage on organizational commitment in early career stage. Stage 1 (˜=-.21, p=.06). The interaction is shown in Figure 2.

From the descriptive statistics we found that organizational commitment was not significantly related to the early career stage, Stage 1. Additionally, age was not significantly related to job satisfaction or organizational commitment. Age itself was unable to explain satisfaction or organizational commitment when effects of career stages were removed.

My results support Hypothesis 1, but not Hypothesis 2. There is a significant weak moderation for Stage 1 and age in employee job satisfaction. This means that unlike the popular stereotypes of younger workers being unhappy at their jobs, these subjects were actually more satisfied at the beginning of their careers that older workers. Younger workers in early career stage were indeed more satisfied with their jobs than older workers in early career stage.

There is significant moderation for Stage 1 and age in organizational commitment. However, unlike it was predicted, younger workers in early career stage were actually more committed to the organization than older workers in early career stage. Perhaps, older workers are less committed to the organization because they are staring out in a new field at a later age.

Previous studies have shown that older workers are more satisfied in their jobs than younger workers (Meyer, Stanley, Herscovitch & Topolynsky, 2002; Sarker, Crossman & Chinmeteepituck, 2003; White & Spector, 1987). The findings of this research do not support previous findings. Instead this study demonstrates older workers are less satisfied with their jobs especially during early career stages.

This study supports Riordian, Griffith and Weatherly (2003) in that career stage moderates the relationship between age and work attitude. I found a significant correlation between Career Stage 1 and job satisfaction and organizational commitment. Similar to Riordian, Griffith and Weatherly's (2003) findings, age correlated negatively but weakly with job satisfaction and organizational commitment. The study disagrees with the previous findings of Finegold, Mohrman and Spreitzer (2002) which state younger employees in early career stages tend to have lower organizational commitment. Instead, in current study I found that younger individuals in Career Stage 1 had significantly higher levels of organizational commitment than their older counterparts.

One must certainly accept these conclusions with some caution. These data are gathered on a small sample size (n=89) and only in one profession, teaching, which clearly limits the generalizability of the findings. Although the regression results supported Hypothesis 1, the results need replication using a larger sample size and across different professions. It is also difficult to determine what specifically is affecting organizational commitment. Perhaps a broader study with more variables, i.e. pay and benefits, work life balance, would help explain these findings better. From these findings we can derive that young teachers, or even young workers, feel more positive about their jobs than their older counterparts. There is no reason for concern for employers over job satisfaction in hiring a younger workforce. There is no evidence the Generation Y presents any special breed or cause for major alarm.

Conducting future research on this topic, the researcher should take into consideration several different factors. The subjects chosen for this research were all teaching graduate students. Future research should consider a different set of subjects or a broader set of subjects, spread across several professions. The hypothesis of this research looked at only Stage 1 of career development. Future research should look at all career stages to see how the relationship between age and job satisfaction or age and organizational commitment are moderated across career spans.

Conclusion

The findings from this study have shown that there is a moderation effect when career stage is a factor in job satisfaction and organizational commitment. Age alone could not support a significant correlation to job satisfaction or organizational commitment. The results of this study show that it is too simplistic to look at age alone in relation to work attitudes. There are other factors, like career stage, that affect that relationship.

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