

AN EXAMINATION OF SEXUAL ORIENTATION AND IDENTITY STATUS IN  
RELATION TO SELF-ESTEEM AND PSYCHOLOGICAL DISTRESS

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**Abstract**

A sample of 791 college students between the ages of 18 and 25 years-old completed an online survey. Respondents were administered a series of measures to determine their sexual identity development status, global self-esteem, global psychological distress, sexual esteem and sexual distress. A 2 X 4 MANOVA (Sexual Orientation X Sexual Identity Development Status) was conducted. Results indicated that no significant difference was observed in terms of psychological distress, global self-esteem, sexual esteem or sexual distress between those who identified as gay, lesbian, or bisexual and those who identified as heterosexual. Significant differences were found among participants in relation to sexual identity development status. Specifically, those who were classified as having achieved a sexual identity scored higher on measures of self-esteem and lower on measures of psychological distress. Notably, follow up DFA indicated that sexual distress emerged as a particularly stable and important variable in explaining differences among those in different sexual identity development statuses. Implications for research and practice are discussed.

## CHAPTER 1 – INTRODUCTION

### An Examination of Sexual Orientation and Identity Status in Relation to Self-Esteem and Psychological Distress

“...should a young person feel that the environment tries to deprive him too radically of all the forms of expression which permit him to develop and integrate the next step, he may resist with the wild strength encountered in animals who are suddenly forced to defend their lives. For, indeed, in the social jungle of human existence there is no feeling of being alive without a sense of identity” (Erikson, 1968, p. 130).

As Erikson posits in the opening quote of this manuscript, the formation of identity is essential to the human experience. We, as people, are driven to achieve a sense of identity and a congruent way of expressing that identity. Our understanding of ourselves influences how we see ourselves, how we feel about ourselves, and how we interact and function within our social world. It is the sense of self, the formation of identity, that allows us to experience psychological wellbeing and experience ourselves as valuable and appreciated by others; or, conversely, without a well-formed sense of identity, we may experience psychological distress. The winding road to developing an identity is not always easy or pleasant. It may include moments of self-doubt, confusion,

and distress. However, the great reward for working and successfully forging an identity is wellbeing, self-awareness, and confidence in relating to others.

Counseling psychologists have dedicated many resources to understanding identity development, especially occupational, racial, and religious identity development. The increased attention to sexual orientation has also led to the study of sexual identity development. Over the last three decades attention has been directed at understanding sexual minority identity development (e.g., Cass, 1979; 1984; Fassinger & Miller, 1996; McCarn & Fassinger, 1996; Sophie, 1985-1986; Troiden, 1989). In contrast, heterosexual identity development has only begun to receive attention (Worthington & Mohr, 2002). The attention given to sexual minority identity development while simultaneously neglecting heterosexual identity development has led to bias and uncertainty in understanding the commonalities of sexual identity development that occur regardless of sexual orientation (Savin-Williams, 2005).

The body of research dedicated to understanding sexual identity development and sexual orientation has produced mixed results. Those studies conducted before the 1980s tended to indicate that gay, lesbian, and bisexual (GLB) people were less mentally healthy and more likely to suffer from depression, suicidality, and self-destructive behaviors than were heterosexual people (see Savin-Williams, 2005 for a review). These findings may have been skewed because many of the studies compared GLB individuals recruited from clinical settings to heterosexual individuals recruited from non-clinical settings (Savin-Williams, 2005). In the 1990s and more recently, researchers have reported more positive findings. Specifically, research has shown that while those young adults who are engaged in developing a GLB identity may experience more

psychological distress, certain environmental and societal factors (e.g., parental support and increased visibility of GLB role models; Savin-Williams, 1989a; 1989b) allow for healthy development that is no more psychologically harmful than that experienced by heterosexual youths (Savin-Williams, 2005). To explain these findings, some researchers (Floyd & Stein, 2002; Savin-Williams, 2005; Savin-Williams & Cohen, 2004) have proposed that various “trajectories” exist in development and individuals, regardless of sexual orientation, may experience increased mental distress depending on their developmental trajectory. Specifically, researchers have posited that some trajectories of sexual identity development are more problematic for people than are other trajectories (Floyd & Stein, 2002). The position that sexual orientation may develop in a variety of trajectories has been supported by qualitative and quantitative findings (see Savin-Williams, 2001 for a review). For example, Floyd and Stein (2002) conducted a study of developmental milestones in forming a GLB identity with a sample of 72 self-identified sexual minorities between 16 and 27 years-old. Cluster analytic results indicated that five developmental trajectories existed for GLB youth and that levels of emotional wellbeing and self-esteem differed by developmental trajectory (Floyd & Stein, 2002). For example, those individuals who disclosed a GLB orientation at a younger age reported higher levels of comfort with their sexuality than those who disclosed a GLB orientation at an older age (Floyd & Stein, 2002). Unlike sexual minority identity development, heterosexual identity development has been assumed to be a unitary and simple process. While much research has explored mental health issues in apparently predominantly heterosexual samples, there is little research that directly addresses how heterosexual identity formation affects psychological constructs. Only recently has a model of sexual

identity development for heterosexual individuals been proposed (i.e., Worthington et al., 2002).

Although Worthington et al. (2002) described a complex model of heterosexual identity development grounded in Marcia's (1987) theory of identity development; no research has emerged that examines how the process of developing a heterosexual identity effects psychological functioning. Furthermore, research lending support for the model or disconfirmation of the model is still in its infancy. Because of the lack of research looking at how heterosexual identity development processes effect psychological functioning little is known about how developing a heterosexual identity differs or reflects the development of a sexual minority identity. For example, it remains to be known how the development of a heterosexual identity influences mental health, relationship formation, self-esteem, etc.

Findings concerning psychological constructs and their relation to both GLB and heterosexual sexual identity development, and what role identity development plays in psychological functioning, indicates a need for further inquiry. Specifically, research is needed to examine sexual identity development with respect to, and regardless of, sexual orientation. A thorough review of the literature revealed no study comparing or simultaneously assessing how heterosexual and sexual minority identity development relates to psychological functioning.

Because of the mixed results reported in the literature related to mental health and GLB identity development in young adult and youth samples, Savin-Williams (2001; 2005) has suggested that it is the identity development process and the barriers involved in forming a GLB identity (e.g., lack of parental support and social stigma) and not

sexual orientation itself that may account for the mixed findings. Furthermore, because information on heterosexual identity development is in its infancy, it is impossible to confidently conclude that similar problems are or are not experienced by those engaged in developing a heterosexual identity. The current study seeks to address these questions by examining both sexual orientation and sexual identity development in relation to Marcia's (1966, 1987) model of identity development.

Marcia (1966) suggested that the status of identity development is likely related to level of self-esteem and proneness to anxiety or psychological distress. In brief, based on previous writings (i.e., Floyd & Stein, 2002; Savin-Williams, 2005; Worthington et al., 2002) it was hypothesized that sexual identity development status, regardless of sexual orientation, would explain many of the differences that have previously been reported in comparative studies between GLB and heterosexual individuals. The current study sought to compare global self-esteem, sexual esteem, psychological distress, and sexual anxiety across sexual orientations and determine if Marcia's model can be extended to sexual identity development. Consistent with Marcia's (1966) theorization of ego-identity development in general, individuals, regardless of sexual orientation, who have reached an achieved identity status would report higher levels of global self-esteem and sexual esteem and lower levels of psychological distress than those who have not yet successfully reached an achieved (or synthesized) identity status. It was also expected, based on the work of Floyd and Stein (2002) and Savin-Williams (2005), that GLB and heterosexual individuals would report similar levels of global self-esteem, sexual esteem, global psychological distress, and sexual anxiety. Finally, it was expected that there

would be no interaction effect between sexual orientation and sexual identity development status.

## **CHAPTER 2 - LITERATURE REVIEW**

In order to provide a foundation from which the purpose of this study can be well understood, identity development in general is reviewed. Building on Marcia's (1966) theory of ego identity development, sexual identity development is discussed along with sexual orientation. This approach is necessary because although sexual identity development and sexual orientation are different constructs, they are inherently intertwined in some ways. Following this discussion, global self-esteem, sexual esteem, global psychological distress, and sexual anxiety are considered independently. It should be noted that while each construct is discussed individually some overlap is unavoidable because much of the relevant research has considered two or more of the constructs of interest simultaneously; it is therefore impossible to completely dissect findings from previous works without losing meaning or minimizing the significance of some of the previous research in this area. By addressing each of these constructs and relating them to sexual identity development and sexual orientation, it becomes possible to consider whether sexual orientation or sexual identity development account for reported differences in self-esteem, sexual esteem, psychological distress, and sexual anxiety. Certain constructs derived from or related to Marcia's theory of ego-identity development are considered in order to provide support or disconfirmatory evidence in relation to how development has previously been conceptualized while possibly simultaneously

expanding Marcia's theory to sexual identity development, a domain of identity development not addressed in the original theory (Marcia, 1966).

After discussing theory and previous research, a systematic review of the literature is presented and criteria for inclusion and findings are described. Such information is relevant both to clinicians who treat adolescents and young adults, as well as to researchers who seek to better understand how sexual identity development interacts with the specified constructs of interest. Specifically, clarification of how sexual identity development for both GLB and heterosexual individuals may provide insight into which interventions are likely to be of greatest benefit to clients who are engaged in various stages of identity development. Such information will also allow clinicians and researchers to better distinguish between normal and impeded development in clients and thereby allow for a more complete clinical picture that may be useful in determining diagnoses that are often considered when working with young adults (e.g., Identity Problem, Adjustment Disorders, Parent-Child Relational Problems, and Anxiety Disorders). Furthermore, in recognition of the apparent lack of specificity and clarity in reported findings concerning sexual identity development and sexual orientation, consideration of the specified variables may help in the effort to increase clarity through increasing complexity in regard to how sexuality is examined. As previously noted, no study could be located that simultaneously examined sexual identity development status in conjunction with sexual orientation and mental health constructs. Following this discussion, research questions and related hypotheses aimed at testing the utility, of extending Marcia's theory to the realm of sexual identity development are proposed.

### **Identity Development**

“The young person may spend years asking questions such as Who am I? What are my values and goals? What is my life purpose? What makes me different from other people? Am I really the same person from one year, or decade, to the next?” (Schwartz, 2001, p. 7).

Erikson (1963), in his psychosocial model of development, theorized that the main function, or “crisis,” of adolescence is found in the process of developing one’s identity. As Schwartz (2001) explained, many of the questions an individual may ask himself or herself during this crisis are related to the core values inherent in and stability of identity components. These questions, and subsequent actions based on the answers to these questions, may conflict with previous developmental experiences.

The individual enters into the process of identity development with notions that were previously inherited during childhood (Erikson, 1963). Upon entering the crisis of identity development, as suggested by Schwartz (2001), those notions and understandings of how one fits into the world and what it is that one believes come into question. During the developmental crisis of identity formation, it is not uncommon for people to experience stress while tackling the task of exploring their identities (Erikson, 1963); which are composed of a variety of intersecting, related, and stand-alone characteristics and understandings of the self.

Recognizing both intrapsychic and societal influences on the adolescent task of identity development, Erikson (1963) viewed this stage of the life cycle as a period of growing commitment to ideological and occupational ideas. Both understanding of the intrapersonal self and understanding of the self-in-social-context continue to develop

(Erikson, 1963; Marcia, 1966). This increased understanding leads to a sense of continuity, consistency, and stability (Marcia, 1966). While specific attention is given to occupational and ideological development in the psychosocial theory of development, Erikson provided little in the way of operational definitions that could be used to investigate various domains (e.g., religious, occupational, political, gender) of identity development. The lack of clear operational definitions has led to a vast body of literature that demonstrates conceptual differences among identity constructs and among investigators' own ideas of identity constructs (Schwartz, 2001). This variation has led to much research that sometimes lacks parsimony. As it relates to the present study, the lack of parsimony may have to do with the fact that sexual orientation is not always clearly differentiated from, or considered in terms of, sexual identity development in the previous research. Additionally, the age range at which sexual identity development occurs may span a greater number of years than previous theory and research suggest.

As Western societies have become more industrialized, the age range for identity formation proposed by Erikson has been called into question (Arnett, 2000). Young adults frequently maintain a reliance on their families for emotional and financial support considerably longer than in past decades while still enjoying increased autonomy and freedom to explore personal interests. In recognition of this societally normative phenomenon, Arnett (2000) argued that the identity development stage of the psychosocial model has been extended and lasts longer in industrialized societies such as the United States compared to non-industrialized societies. This may be especially true for young adults who choose to enroll in college in order to obtain post-secondary education (Arnett, 2000). As if anticipating this possibility, over four decades ago

Erickson noted that “as technological advances put more and more time between early school life and the young person’s final access to specialized work, the stage of adolescencing” (Erickson, 1968, p. 128) is prolonged. Arnett’s (2000) position, therefore, is not only consistent with Erikson (1968), it expands the complexity of identity development by suggesting and offering theoretical considerations concerning the reformulation of Erickson’s theory, or, possibly, even an additional phase of development that is specific for those who are raised in industrialized countries.

Although Arnett (2000) and Erickson (1968) agreed that people experience much fluctuation and “various possibilities in love, work, and worldviews are explored” (Erickson, 1968, p. 469) while forming an identity, the age range specified for such developmental tasks is different for each theorist. While Erikson (1963) posited that such identity development tasks occur in the *identity versus role confusion* crisis, which lasts from about 13 to 19 years of age, Arnett (2000) suggested that as Western society has evolved such developmental tasks are often addressed between the ages of 18 to 25. Building on this assertion, Arnett (2000) suggested that a new stage of development, *emerging adulthood*, should be considered.

Arnett (2000) argued that in societies that offer young people extended time to practice being independent and explore their identities; individuals continue to develop their world views and identities between 18 to 25 years of age. Referring to this prolonged adolescent stage as *emerging adulthood*, Arnett (2000) suggested that because those in the specified age range are often both simultaneously dependent on caregivers for support (both financial and social) and independent of caregivers (in that they make their own decisions and are relatively autonomous compared to adolescents) that those in

this age range are actually in a new stage of development, a stage not present in Erickson's original theory. This age difference is of importance not only because as adolescence is extended in industrial and post-industrial countries more time is available for self-exploration and identity development, but also because those emerging adults are often not influenced by the same type of parental guidance and protections associated with traditional adolescence (Arnett, 2000). Therefore, studies relying on age ranges proposed by Erickson may arrive at substantially different conclusions than studies relying on Arnett's (2000) position. Age, however, is not the only factor that has raised questions in the field of identity research.

Various factors other than sexual orientation, including age, gender, and racial/ethnic identities have been found to influence identity development. Research has supported Erikson's position that identity crisis is more or less bound to a specific age range. Considering Arnett's (2000) position, however, does not contradict, but instead extends Eriksonian theory. Specifically, various studies have concluded that as age increases the proportion of individuals categorized as "identity achieved" increases (e.g., Waldo, 1998). Unlike research investigating the effect of age, research concerned with the effect of gender on identity development has provided less consistent findings.

While research before 1978 routinely reported gender differences that tended to indicate that identity development differed between men and women, research since 1978 has generally found that men and women progress through identity development at similar rates and within similar age ranges (Lewis, 2003). Interpretation of this phenomenon has been offered by Lewis (2003) who suggests that prior to 1978 women were not expected to develop their own identities in the same way in which men were

expected to develop their identities. Lewis (2003), citing Marcia (1993b), suggested that sociopolitical changes and the evolution of increased support for achievement by women led to changes in how women engaged the identity development process. Some studies have also suggested that differences in identity development exist based on racial/ethnic group identity. Factors such as the value of collective and familial harmony may delay identity development as it is conceptualized by dominant Western culture (Markus & Kitayama, 1991) because of the role of others in an individual's identity. In general, studies have found that Caucasian Americans tend to fall less often into the foreclosed status of racial identity development than African Americans, Mexican Americans, Asian Americans, and Native Americans (Abraham, 1986; Markstrom-Adams & Adams, 1995; Streitmatter, 1988). More recent studies, however, have only found partial support at best for differences in identity development among racial/ethnic groups. For example, Branch, Tayal, and Triplet (2000) found no difference among racial/ethnic groups in terms of identity development. Lewis (2003) reported that while some significant differences existed between Caucasian Americans versus either Hispanic or Asian Americans, no significant difference was observed between Caucasian and African Americans in terms of identity development. Most recently, Jamil, Harper, and Fernandez (2009) opined that individual identity development processes (such as ethnicity and sexuality) occur within the context of other identity development processes, causing identity development processes to be both contextualized and independent. Marcia's (1966) theory of identity development offers a prime example of how various identity domains simultaneously develop.

**Marcia's theory of ego identity**

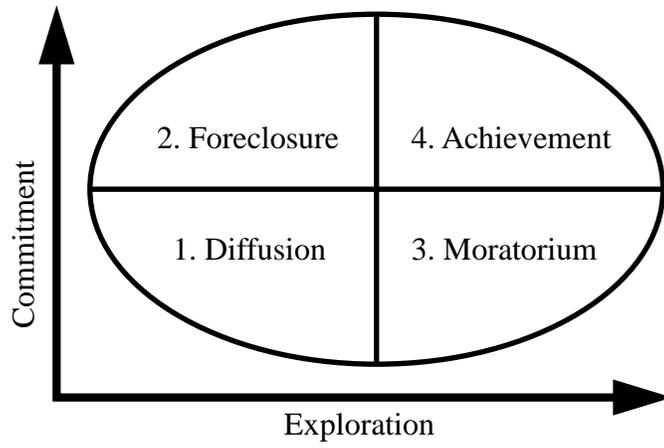
The most well-known operationalization of Erickson's theory is provided by Marcia (1966). Since Marcia proposed his psychosocially derived model of ego identity development, hundreds of studies grounded in Marcia's model have been published. One advantage of the proliferation of Marcia's theory of ego identity development is that definitions and operationalizations of constructs within the field of identity research can sometimes be compared; however, even those researchers who have relied on Marcia's ego identity development model have used a variety of instruments that have contributed to sometimes contradictory findings (see Schwartz, 2001 for a review). Focusing and expanding on Erikson's (1956, 1963) concept of identity crisis, Marcia (1966) outlined four statuses of ego identity development: *identity achievement*, *identity diffusion*, *identity moratorium*, and *identity foreclosure*. Consistent with Erickson (1956, 1963), Marcia (1966) held that identity development is best conceptualized as a sort of continuum. Specifically, during the developmental crisis of identity formation, individuals at the least engaged stage of identity development are considered diffused while those who have explored and committed to an identity are considered achieved (Marcia, 1966).

The two criteria used to determine the stage of identity development for an adolescent are exploration and commitment (Marcia, 1966). Marcia posited that Erickson (1956, 1963) viewed "identity crisis as a *psychosocial task*" (Marcia, 1966, p. 551; italics from original). Because identity development is a psychosocial task, both the intrapsychic and the social milieu within which individuals develop interact during identity development processes. Crisis is seen as the necessary protagonist that induces

the identity development process. The associated discomfort is indeed the driving force that causes identity development to occur (Erickson, 1956, 1963; Marcia, 1966). In order to reduce psychological discomfort, individuals are compelled to formulate and solidify a stable, or achieved, sense of identity. The combination of an individual's level of exploration and level of commitment to a set of goals, beliefs, and values is used to categorize individuals into one of four identity states (see Figure 1).

Figure 1

*Marcia's ego identity development statuses*



\*adapted from Marcia (1966) by author.

According to Marcia (1966), individuals, in defining and achieving a sense of self, go through a period of heightened distress. Only after deeply considering and wrestling with beliefs that have been inherited from parents and society and only by making these beliefs personally meaningful by refining, or even replacing, certain beliefs, can individuals synthesize an achieved identity. This process may cause conflict with parents and other important social figures if personal beliefs deviate too far from those inherited during childhood (Marcia, 1966). In terms of the present study, values and ideologies related to what types of sexual behaviors and orientations are acceptable may cause internal struggle during the identity development process. Although uncomfortable and distress-inducing, those who progress through the crisis of identity development are rewarded with subsequent deeper understanding of themselves. Such rewards take the form of a congruent belief system and way of being, personally relevant identity labels, and intrapersonal stability (Marcia, 1966). Essentially, past beliefs are re-evaluated and discrepancies between how one is and who one believes he or she is are resolved; commitment is high and crisis has been successfully negotiated through intense exploration, leading to an achieved identity status (Box 4 in Figure 1). Those who have yet to reach an achieved identity theoretically fall into one of three other identity statuses.

Identity-diffuse (Box 1 in Figure 1) individuals “may or may not have experienced a crisis period” (Marcia, 1966, p. 552). The targeted aspect of identity has not been considered or thought about and related ideological matters and beliefs are of little interest. While the adolescent may have some inkling of who he or she is and in what he or she believes, both identity and ideology are transient and malleable (Marcia, 1966). Depending on situation and time, in an unorganized manner individuals may

choose to identify themselves variously. Essentially, crisis may not have occurred and commitment is low resulting in an inconsistent sense of self causing the individual to adopt an identity that is easily influenced.

Existing between the earliest level of identity development (identity diffusion) and the hoped-for level of identity development (identity achievement) are identity moratorium (Box 3 in Figure 1) and identity foreclosure (Box 2 in Figure 1). The individual in moratorium is conceptualized as actively experiencing crisis that spurs exploration. Simultaneously, commitment to a personal ideology is low (Marcia, 1966). The young person in moratorium may be willing to compromise with the demands or preferences of important figures (such as parents). Furthermore, the active struggle that the individual in moratorium experiences results in preoccupation with internal conflicts regarding self-relevant questions (such as those proposed by Schwartz, 2001) that are perceived to be irresolvable in nature (Marcia, 1966). During identity moratorium, exploration is moderate to high and commitment is low (Marcia, 1966).

While not considered to be a “higher” or “lower” level of identity development than identity moratorium, identity foreclosure also exists as an intermediate status of identity development. During identity foreclosure no crisis has been experienced, translating into low exploration of identity, while commitment to identity and ideology is high. Marcia (1966) posits that “it is difficult to tell where his [or her] parents’ goals for him [or her] leave off and where his [or hers] begin” (p. 552). Experiences serve as confirmatory data used by the young person to further express commitment to an identity that is not the individual’s own but is instead inherited via social expectations. The young person may present as “rigid” and unable to manage situations in which inherited

values are nonfunctional. During such situations it is likely that the person would experience feelings of threat and insecurity (Marcia, 1966).

Although Marcia's system of categorization of identity development status has been widely embraced, more recent critiques (e.g., Lewis, 2003; Schwartz, 2001) note that because identity status may vary by domain (e.g. gender role versus ideological beliefs), the process of using overall categorization techniques decreases accuracy by minimizing differences and disregarding variation within each identity status classification. This suggests that each domain of identity development may be better considered as unique variables rather than as a univariate, global level of identity development. Furthermore, Lewis (2003) argued that the popular use of categorization decreases the ability to use more sophisticated statistical techniques in data analysis, leading to nuances in identity development being undetected and neglected in research. Such neglect may make it impossible to bring to light subtle differences and complexities of identity development to remain hidden.

Although Marcia (1966), like Erikson, was primarily concerned with occupational and ideological identity development, various studies support the position that the statuses proposed by Marcia (1966) are relevant for a range of individual identity development processes and that the model is not limited to explaining ideological and occupational identity development. Since being published, Marcia's theory of ego identity development has been successfully used to further understanding of sexual identity development (e.g., Worthington, Navarro, Savoy, & Hampton, 2008), religious doubt (e.g., Puffer, Pence, Graverson, Wolfe, Pate, & Clegg, 2008), ethnic identity development (e.g., Lewis, 2003; Yip, Seaton, & Sellers, 2006), and gender identity

development (e.g., Lewis, 2003). For an overview of applications of Marcia's theory to a broad spectrum of identity domains see Coté and Allahaar (1994) and Schwartz (2001). Of particular interest to this study, however, is how Marcia's theory corresponds with the considerable body of literature concerned with sexual identity development (as a psychological construct) and sexual orientation (as a demographic variable).

### **GLB identity development and sexual orientation**

“Marcia (2001) stated that there is particular need to study ego identity in special or unique populations, such as lesbian, gay, and bisexual (LGB) people...LGB people often depart from traditional patterns of development and socialization in adolescence (Evans & D'Augelli, 1996; Hancock, 1995; Savin-Williams, 2001) and face unique struggles as they develop their identities (Kimmel, Rose, & David, 2006)” (Potoczniak, Aldea, & DeBlaere, 2007, p. 447).

In 1979, Vivienne Cass' now seminal theory of *homosexual identity formation* debuted. The Cass model spurred sexuality and identity theorists into action, resulting in a plethora of stage models (e.g., Chapman & Brannock, 1987; Coleman, 1982; Morales, 1989; Minton & McDonald, 1984; Sophie, 1985-1986; Troiden, 1989). These stage models were intended to delineate the process of sexual identity development. Not surprisingly, many of the proposed theoretical models have, to varying degrees, attended to both intrapsychic and interpersonal phenomena. This similarity provides a logical bridge in justifying how Marcia's Erikson-inspired ego-identity model (Marcia, 1966) may be applicable to understanding sexual identity development. Furthermore, the lack of an empirically validated model of heterosexual identity development has contributed

to the lack of research comparing sexual identity development processes between GLB people and heterosexual people.

Regardless of the specific sexual orientation or population for which a sexual identity development model was designed, all of these models recognize that in forming and committing to any sexual orientation label individuals go through a developmental process that may be marked by exploration, commitment, and eventually some sort of integration or synthesis. Perhaps not so surprising, sexual identity development models consistently include mention of exploration and commitment and generally culminate in a synthesis or integration that is akin to the achievement status that is described in Marcia's (1966) theory of ego identity development. It should be noted, however, that these models variously focus on the role of societal oppression toward sexual minorities and incorporate intrapersonal understandings of one's sexuality within a larger societal context. Some findings suggest that those who identify as bisexual may have differences in connection to the sexual minority community and construct/develop their identities differently than gay men and lesbian women (Balsam & Mohr, 2007; Ochs, 1996). It should also be noted that traditional models, such as the Cass (1979; 1984) model, have been found to be invalid in explaining sexual identity formation in certain subpopulations, such as Native Americans (Adams & Phillips, 2009).

While many theorists have attempted to explain GLB identity development by focusing on different aspects of identity, certain themes emerge across models of sexual identity development. First, whether linear and stage-like (e.g., Cass, 1979; Troiden, 1989) or cyclical and phase-like (e.g., Fassinger & Miller, 1996; McCarn & Fassinger, 1996), all models suggest that sexual identity development is a process. Second, within

the process of sexual identity development, models consistently indicate that during certain points in identity development sexual minorities experience psychological distress in one form or another. For example, Cass (1979; 1984) noted that during the *tolerance* stage, the individual is not accepting of his or her identity and that his or her sexual minority status is something that is hidden. Cass continued by explaining that social roles change throughout the identity development process. Specifically, GLB people enter a stage (*pride*) in which heterosexual individuals and the heterosexist society is viewed with contempt because “they do not understand” or “they are not like me.” McCarn and Fassinger (1996), taking a more modern approach, noted that following a time of exploration, individuals become more aware of “oppression of the lesbian/gay community” and work to “create a personal relationship to the reference group, with awareness of the possible consequences entailed” (p. 525), including a “combination of excitement, pride, rage, and internal conflict” (p. 525) and rejection by dominant society. In general, as a GLB person “...becomes more comfortable with self-identity...common symptoms such as shame, guilt, confusion, sadness, and anger diminish” (Conner, 2003, p. 239).

To further differentiate between sexual orientation and sexual identity development, a brief review of how sexual orientation has been defined is useful. Researchers have struggled for decades to operationalize sexual orientation in a meaningful way and have developed a variety of methods through these attempts (e.g., Kinsey, Pomeroy, Martin, & Gebhard, 1953; Klein, 1990; Storms, 1980). To date, no one way of operationalizing sexual orientation (i.e., Kinsey Scale, Klein Grid, self-report) has proven effective in all situations; although, some have proven more useful than

others, depending on whether behavior or internal identity or sexual desire are of interest. The lack of success in identifying and describing sexual orientation is likely a result of the fact that sexual orientation is complex and has been defined in various ways (e.g., Kinsey et al., 1953, Klein, 1990).

The seminal work in defining sexuality and sexual orientation in America is that of Kinsey and his colleagues (Kinsey et al., 1948; Kinsey et al., 1953). Kinsey's team offered a tripartite definition of sexual orientation and defined sexual orientation as a combination of sexual attraction, sexual fantasy, and sexual behavior. However, an individual can certainly have fantasies about or attractions to individuals of both sexes while still only engaging in sexual activity with members of one sex. Such individuals are likely to obtain inaccurate Kinsey scores, which skews research findings that rely on Kinsey-type measurements to determine participants' sexual orientation. By combining these factors of sexual attraction, sexual fantasy, and sexual behavior, Kinsey suggested it was possible to identify a person's sexual orientation on a continuum ranging from "0" (completely heterosexual in all three domains) to "6" (completely homosexual [sic] in all three domains). While seemingly straight forward, Kinsey's method does not allow for all people to be easily categorized. For example, a man who identifies as gay, has only same-sex fantasies (score = 6), and has had no sexual encounters (score = 0) and is attracted to only those of the same sex (score = 6) would be categorized as bisexual ( $6 + 0 + 6 = 12/3 = 4$  on the continuum). While clear categorization of sexual orientation may not always be relevant or necessary (e.g., such as in certain clinical situations where sexuality is often not a primary concern) the lack of clear categorization methods may

impact research aimed at better understanding sexual identity development and comparison between GLB and heterosexual individuals.

Building on the work of Kinsey et al. (1953), Klein (1993) included sexual attraction, sexual behavior, sexual fantasies, emotional preference, social preference, lifestyle and self-identification as factors that should be considered in determining sexual orientation. Furthermore, the *Klein Sexual Orientation Grid* asks the respondent to rate each of the previous variables for the past, present, and ideal held by the individual using a considerably more complex rating system than that proposed by Kinsey et al. (1953). However, the Klein grid (1993) does not offer a clear way to categorize individuals by sexual orientation either. Indeed, examining and parsimoniously categorizing a combination of the 21 intersections of Klein's scheme presents a daunting task to researchers. The difficulty in determining how to group individuals has hindered clear understanding of and interpretation of some research on sexual identity and sexual orientation.

While a great many variations of both Kinsey-type and Klein-type scales have been introduced into the literature, it seems that researchers cannot adequately address and keep up with how people themselves understand their own sexuality. For example, Savin-Williams (2005) explained that same-sex attracted youth have created a variety of terms to label their sexual orientations that fall outside of the traditional GLB terminology. These emerging terms (e.g., tranny boi) may be related to specific subcultures or identity components that have yet to be identified in most empirical investigations. This may be due in large part to how individuals develop their sexual identities changing as societal understanding, standards, and expectations of sexuality

have evolved. Overall, however, certain themes, regardless of which sexual orientation measurement technique has been applied, have emerged in the literature. These themes have been somewhat consistent, although are by no means conclusive, regarding the links between sexual orientation and other constructs. Furthermore, because of the problems associated with grouping individuals several researchers have begun using self-classification or self-identification as the preferred method of grouping research participants (e.g., Worthington et al., 2008). This method also provides greater clinical relevance. Specifically, clinicians rely on client self-report in regards to understanding sexual orientation and sexual identity development. Correspondingly, research based on self-categorization is likely to be more relevant and applicable to clinical settings when methods of describing or understanding sexuality are consistent across settings.

Furthermore, Kinsey's omission of emotional attraction in defining sexual orientation is problematic and has been addressed by others (e.g., Klein, 1990). The variation in how a sexual orientation category is defined, and subsequently measured, has resulted in inconsistency and unclear qualitative differentiation or quantitative meaning within sexuality research that has investigated sexual orientation differences. This may largely be due to the fact that, although definitions vary significantly, the same terms, or sexual orientation labels, are applied. Therefore, studies comparing "gay men" to "heterosexual men" sometimes produce differing results, in part, perhaps, because of what categorization criteria were implemented in the studies. Furthermore, sexual orientation is often assumed to be a simple demographic variable rather than the incredibly complex construct that it actually is. Because of the complexity involved in meaningfully determining what it means to be GLB or heterosexual researchers have

been unable to offer clear direction that consistently leads to meaningful results. For example, differentiation between men on the “down low” and gay-identified men has only recently become a topic of interest (Boykin, 2005; Graham et al., 2009). It has been documented that using the same set of data and running parallel analyses using a Kinsey style of measurement versus a self-report method of measuring participant sexual orientation can lead to effect size differences of approximately 0.15 in magnitude (Shepler, 2008). Such a difference may lead to significant or nonsignificant findings even when one data set is analyzed using two different methods of determining sexual orientation group membership. However, even in the absence of clear and meaningful categorization schemes, sexuality and sexual identity research has flourished (as evidenced by the number of scholarly journals dedicated to sexuality and sexual minority issues). Many of the studies that have been published, even when recognizing the complexity of determining sexual orientation, have assumed that sexual orientation is a relatively simple demographic variable in order to proceed with data analysis.

For example, psychological research focused on investigating how those who label themselves as sexual minorities function in comparison to those who do not self-label as sexual minorities, yet still engage in same-sex relationships, is not readily available. Confounding this issue further is the fact that GLB youth have begun to reject traditional labels altogether (Savin-Williams, 2005) leading to difficulties in identifying and categorizing sexual minority youth. Specifically, because these youth may engage in same-sex sexual behaviors and have same-sex attractions while not ascribing to traditional labels (i.e., gay, lesbian, and bisexual), researchers may not be studying what or whom they presume to study. While some investigators employ a single-item self-

report measure, other investigators and theoreticians have operationalized sexual orientation in more complex ways. It is suggested here that the type of research itself may play a key role in determining how sexual orientation is operationalized. For example, studies seeking to investigate identity issues may be most accurate by asking participants how they classify themselves while studies seeking to understand behavioral differences, such as the research investigating safe sex practices among self-identified heterosexual men who have sex with men, may increase in validity by inquiring about specific behaviors (e.g., sexual activity and history). To date, however, a clear distinction regarding the importance between behaviors versus self-identification has yet to appear in the literature and has resulted in mixed definitions of sexual orientation.

A key reason for relying on self-report methods is related to transferability of findings to the clinical setting. Findings from behaviorally driven definitions of sexual orientation may be only partially applicable to those who self-identify as GLB because such definitions tend to lack recognition of a broader community and emotional factors related to sexual identity or apply only to a subset of GLB individuals. Relying on self-identification also seems to be consistent with affirmative therapy principles (Bieschke, Perez, & DeBord, 2007). Specifically, respecting the client's right to self-identify (if an identity label is used at all) has been advocated in therapy settings. Also, because of the measurement issues that are addressed in the following paragraphs, it seems most reasonable for studies of identity development to rely upon self-report as opposed to engaging in attempts to seemingly artificially group individuals in ways in which they themselves do not subscribe.

Regardless of classification system used, each system specifically seeks to group individuals based on some set of criteria that generally has to do with to whom an individual is sexually and emotionally attracted. Sexual identity development, while also integrating physical and emotional attraction, is more complicated in that development itself is not a simple demographic variable. Instead, sexual identity development focuses on the process in which individuals engage on their journey toward developing an identity that is only partially related to a specific sexual orientation. While it is true that sexual orientation and sexual identity development are conceptually linked in that one (sexual orientation) is sometimes considered an end product of the other (sexual identity development process), implications of the sexual identity development process remain somewhat unclear. This may be because sexual orientation is alternatively considered as a moderating factor in sexual identity development. The desired end result of sexual identity development, regardless of whether sexual orientation is viewed as the result or as a moderator, is *identity synthesis* (e.g., Cass, 1979) or an achieved identity status.

A primary reason that sexual identity development may be variously conceptualized extends beyond the obvious difference between development and an achieved identity status of a specific sexual orientation. Specifically, some research suggests that sexual orientation may change over time. In a longitudinal study of 156 GLB youths between the ages of 14 and 21, it was found that while 57 percent of the participants consistently self-identified as gay or lesbian, 15 percent consistently identified as bisexual, and 18 percent moved from bisexual to gay or lesbian in self-identification (Rosario, Schrimshaw, Hunter, & Braun, 2006). Based on these findings, Rosario et al. (2006) suggested that “sexual identity development continues after the

adoption of a gay/lesbian sexual identity” (p. 46). This is in contradiction to stage theories that purport that one arrives at an integrated sexual orientation after traversing a sexual identity development process. There is also some indication that sexual identity development interacts with other forms of identity development. Schmidt and Nilsson (2006) reported that “inner sexual identity conflict,” resulting from developing a sexual minority identity that is marginalized and causes individuals to become targets of societal oppression, delays career development. Schmidt and Nilsson (2006) suggested that the delay in career exploration and development is due to a decrease in available psychological resources in GLB youth. These researchers (Schmidt & Nilsson, 2006) contended that this decrease is a result of GLB youth having to find ways to manage an oppressed identity, therefore limiting the amount of psychological resources available to engage in occupational identity development. This position is consistent with previous research that has investigated other types of dual identity formation (e.g., racial/ethnic identity development interactions with sexual identity development). Furthermore, and perhaps most poignantly, specific sexual identity development trajectories may be experienced differently by individuals (e.g., Floyd & Stein, 2002). For example, in a study of 613 GLB adults from a community setting, Balsam and Mohr (2007) found that bisexual people had higher levels of identity confusion than gay or lesbian individuals. Environmental factors may also interact with sexual identity development. In reviewing the literature Prince (1995) points out that society may encourage gay men to hide their sexual orientation, which may lead to internalized homonegativity and a poor self-concept. Relatedly, Waldo (1998), in a study of 1927 undergraduate and graduate students found that sexual minority college students were more likely than their

heterosexual counterparts to describe their college campus environment as hostile toward GLB issues. Waldo (1998) suggests that existing within a threatening campus environment may lead to problems with feeling accepted and increased incidence of harassment. Such factors may influence self-esteem, and psychological distress. Because wellbeing holds inherent and significant importance, Potoczniak, Aldea, and DeBlaere (2007) have noted that “research on [GLB] ego identity...becomes particularly relevant in that a mature ego identity indicates lower symptoms of mental distress and a more secure sense of self and identity (Marcia, 1967; Marcia & Friedman, 1970; Oshman & Manosevitz, 1976)” (p. 447).

In general, sexual orientation researchers have suggested that GLB individuals are at elevated risk for psychological distress and low self-esteem. (No research could be located that examined sexual esteem as it relates to sexual orientation.) These studies, however, have failed to control for sexual identity development status and no research has been conducted to confirm whether heterosexual individuals experience similar distress or low self-esteem while developing a heterosexual identity. This omission in the research requires that results be interpreted carefully and should not be overly relied upon in the clinical setting. Specifically, it is unknown whether sexual identity development is necessary to consider or how sexual identity development should be integrated in a variety of clinical settings. While best practices are based in research, the lack of research on sexual identity development precludes the development of guidelines to inform practice in certain clinical settings (e.g., when clients present as “questioning” their sexual identity). Although incomplete and not entirely consistent, review of previous findings elucidates the state of inquiry into sexual identity development and

sexual orientation research; and is therefore useful to consider. After examining heterosexual identity development, a systematic review of the literature is discussed.

### **Heterosexual identity development**

To date, few models of heterosexual identity development exist (Worthington & Mohr, 2002). One of these models (Worthington et al., 2002) builds on various theories of identity development and sexuality in a manner that is consistent with Marcia's theory. Worthington et al. (2002) suggested that heterosexual identity development includes consideration of sexual needs, sexual values, sexual activities, characteristics of a sexual partner, modes of sexual expression, and sexual orientation identity (see Worthington et al., 2002, for operational descriptions of each of these characteristics). Similar to Marcia's (1966; 1987) model of identity development, Worthington et al. (2002) proposed that heterosexual identity development begins in a stage of *unexplored commitment*. Individuals in this stage have not challenged the "compulsory heterosexuality" that predominates in Western societies (Rich, 1981; Worthington et al., 2002). In essence, individuals accept that they are heterosexual without having ever considered what their sexual orientation might actually be. Moving from unexplored commitment, people may proceed in one of three directions (similar to the idea of trajectories proposed by Floyd and Stein, 2002). Specifically, heterosexual individuals may move into a state of *active exploration*, *deepening and commitment*, or *diffusion* (Worthington et al., 2002).

In the state of active exploration individuals may seriously consider the restrictions placed on possible sexualities and seek to better understand themselves as sexual beings by purposefully exploring their sexual values and engaging in sexual

experimentation. Worthington et al. (2002) suggested that this identity status is similar to the moratorium status proposed by Marcia (1987) and that it may correspond to puberty. In the state of deepening and commitment heterosexual individuals accept and move toward integration and understanding of themselves as heterosexual in orientation. This is similar to Marcia's (1966; 1987) description of an achieved identity status. In the state of diffusion, which may have been introduced because of identity crisis (Worthington et al., 2002), active exploration is not present and willingness to further understand sexual identity stagnates. This is similar to Marcia's (1966; 1987) diffusion status. While many heterosexual individuals are likely to move from unexplored commitment to deepening and commitment multiple paths to heterosexual identity development exist. Furthermore, Worthington et al. (2002) posited that there is not a singular path to developing a heterosexual identity and individuals may move between any of the previously described identity statuses.

The fifth status included in Worthington et al.'s (2002) model is that of *synthesis*. Worthington et al. (2002) stated that the only path to reaching synthesis status is to move from deepening and commitment status and that it is likely that individuals must have successfully engaged in active exploration and possibly diffusion before moving toward deepening and commitment and eventually to synthesis. In synthesis, the individual is conscious and aware of his or her heterosexual attractions, preferences for sexual partners, and has an internal sense of his or her sexual identity. Worthington et al. (2002) described that at this level sexual orientation is no longer relegated but instead seen as intersecting with other important identity statuses (e.g., gender, race, religion). While the most advanced state of heterosexual identity development, synthesis is not necessarily an

“end” to heterosexual identity development. Worthington et al. (2002) suggested that an event may occur that spurs movement back into active exploration or diffusion in regards to sexual identity. (See Worthington et al., 2002, for a visual depiction of heterosexual identity formation model and more detailed explanations of each identity status.) With a basic understanding of relevant theory, a more systematic review of the literature is appropriate. The following review is meant to highlight important past findings while further demonstrating the need for this study.

### **Systematic Review of the Literature**

#### **Criteria for inclusion of studies in review**

In systematically reviewing the literature, certain inclusion criteria were established a priori. The PsycINFO database was utilized to locate relevant literature. Two search terms were entered for each search in order to locate sources that were most relevant to the current study. Generic terms were chosen to increase the probability that all relevant literature would be located. For example, the term *sexual identity development* is more specific than *identity development* and the latter was used in order to locate the broadest base of identity development literature. Because sexual distress is most commonly referred to as “sexual anxiety” in the literature, the latter term was used to identify relevant publications. Search term combinations included 1) *self-esteem* and *identity development*, 2) *distress* and *identity development*, 3) *sexual esteem* and *identity development*, 4) *sexual anxiety* and *identity development*, 5) *self-esteem* and *sexual orientation*, 6) *distress* and *sexual orientation*, 7) *sexual esteem* and *sexual orientation*, 8) *sexual anxiety* and *sexual orientation*, and 9) *identity development* and *sexual orientation*. References were reviewed and further inclusion criteria were applied. Sources were

eliminated if they were not empirical in nature or not peer reviewed (e.g., books, theses, and dissertations were eliminated). Sources were also eliminated if they were deemed insufficiently relevant. For example, sources that strictly focused on racial identity development or that only focused on transgender identity development were eliminated from the review process. This elimination decision was determined to be necessary because, while a study may include two search variables (e.g., distress and identity development) the type of identity development was not the focus of this study. Exceptions were made when dual identity development was considered (e.g., the interaction of forming a racial and a sexual identity in relation to self-esteem) because of the inclusion of two criteria in the study. Sources were also eliminated if the study focused on HIV/AIDS because of the inherent confound of reliance on others for support, which may foster non-disclosure of a sexual minority orientation, and the possibly different role of self-esteem and psychological distress related to chronic illness. Because of the unique sociopolitical ramifications of living with HIV/AIDS no exceptions were made to this criterion.

To be included in the review, the sample must have included participants between 16-27 years old. Some studies had very wide age ranges (e.g., 16-80 years old) and were included. This range is larger than the proposed study's range (18-25 years old) and allowed for inclusion of a greater number of relevant sources to be included without eliminating many studies that were cross-sectional or longitudinal in nature. Studies focusing on couples, relationships, and psychotherapy or counseling were eliminated because none of these issues is central to the current investigation. Studies must have been available in English in order to be included. If a study was located by more than

one search term combination then the study was included in the more relevant category (e.g., an article looking at distress and identity development of gay males would have been included in the *distress and sexual orientation* section because of the emphasis on a specific sexual orientation instead of identity development and distress).

Results from this method of literature review resulted in 80 individual articles from a total of 49 peer reviewed journals for review. In addition to these identified, peer-reviewed studies, my previous study in the area of sexual orientation and sexual identity development led to the inclusion of other relevant sources (e.g., books, articles) that were not located in the PsycINFO database.

### **Self-esteem**

**Self-esteem and identity development.** A total of 13 articles that examined self-esteem and identity development met the criteria for inclusion in this review. The included articles came from (in order from greatest to fewest articles per journal) *Journal of Counseling Psychology* (2), *Journal of Genetic Psychology* (2), *Archives of Sexual Behavior* (1), *Child & Adolescent Social Work* (1), *Developmental Psychology* (1), *Journal of Adolescent Research* (1), *Journal of Applied Developmental Psychology* (1), *Journal of Homosexuality* (1), *Journal of Research in Personality* (1), *Journal of Sex Research* (1), and *Measurement and Evaluation in Counseling and Development* (1).

This body of literature generally provides mixed findings in terms of the relationship between self-esteem and identity development. Looking at identity development in general, Dusek, Carter, and Levy (1986), tested Erickson's theory and, after conducting two studies with undergraduate students, concluded that successful negotiation of identity crisis was positively correlated with higher self-esteem. Although Dusek et al. (1986) did

not examine sexual identity development or compare students on the basis of sexual orientation; they did find that self-esteem was related to identity development and that differences in levels of global self-esteem were observable between men and women. Focusing on sexual identity development, Halpin and Allen (2004), building on Cass' (1979) theory of homosexual identity formation suggested and tested the proposition that self-esteem, well-being, and life satisfaction fit a U-shaped pattern as stage of sexual identity development progressed. Using data from over 400 gay males between 12 and 64 years-old the authors found that the U-shaped pattern did exist and that progressing through sexual identity development stages was related to level of self-esteem and other psychological functioning. Conversely, Walters and Simoni (1993) classified sexual identity development using a modified version of Cross' (1971) Racial Identity Attitude Scale and, although the researchers reported "a moderate inverse relationship between pre-encounter attitudes and self-esteem and a positive relationship between internalized attitudes and self-esteem" (p. 94), they also found that self-esteem (as measured by the Rosenberg Self-Esteem Scale (RSES, 1965) was not significantly correlated with sexual identity development across all levels of sexual identity development. Similarly, Maguen, Floyd, Bakeman, and Armistead (2002) generally failed to link self-esteem with sexual orientation milestones (e.g., first disclosure of sexual orientation). In fact, in the sample with an average age of 20 years-old, only disclosure of a sexual minority orientation to participants' fathers was linked to level of self-esteem. This method of using sexual milestones instead of sexual identity development status, however, might account for the findings. In general, this literature has used various identity development models and has sought to link global self-esteem with sexual identity development.

Results are mixed and it is difficult to determine whether global self-esteem is directly linked to sexual identity development.

At least one study (Dusek et al., 1986) using an Ericksonian derived model of general identity development has found that identity development stage is linked with global self-esteem; and at least one study (Halpin & Allen, 2004) was able to replicate this finding in relation to sexual identity development. The lack of consistency in the findings appears to be related both to the way identity development has been previously defined in the literature as well as the consistent use of only one (global) measure of self-esteem (primarily the Rosenberg Self-Esteem Scale; Rosenberg, 1965). It should also be noted that none of the studies identified in this systematic review utilized Marcia's (1966) model of identity development as a theoretical framework.

**Self-esteem and sexual orientation.** A total of 15 articles that examined self-esteem and sexual orientation met the criteria for inclusion in this review. The included articles came from (in order from greatest to fewest articles per journal) *Cultural Diversity and Ethnic Minority Psychology* (2), *Journal of Homosexuality* (2), *Developmental Psychology* (1), *Journal of Abnormal Psychology* (1), *Journal of Bisexuality* (1), *Journal of Consulting and Clinical Psychology* (1), *Journal of Lesbian Studies* (1), *Personality and Social Psychology Bulletin* (1), *Psychological Science* (1), *Psychology of Men & Masculinity* (1), *Sex Roles* (1), *Sexual & Marital Therapy* (1), and *Sexuality & Culture: An Interdisciplinary Quarterly* (1).

This body of literature appeared to be often intertwined with research concerned with mental wellbeing and psychological distress. For example, Balsam, Beauchaine, Mickey, and Rothblum (2005) measured self-esteem, yet reported no findings regarding self-

esteem. Instead, the authors reported sexual orientation differences, including that women of all sexual orientations were more likely to have sought mental health services than their male counterparts, that heterosexual males were more likely to report a history of psychiatric hospitalization than any other group, and that bisexual individuals were more likely to report a history of self-injury than were gays or lesbians. Similarly, Bowleg, Craig, and Burkholder (2004) measured self-esteem using the RSES and found that race and self-esteem were significantly correlated with identification as a lesbian and therefore focused on social support and coping style instead of the relationship between self-esteem and sexual orientation. Consolacion, Russell, and Sue (2004) found that sexual orientation was not related to self-esteem for multiple minority status adolescents; but again omitted any measure of identity development. The reason for these findings may be linked to the researchers' reliance on sexual orientation void of consideration of sexual identity development factors. As this body of literature suggests, self-esteem and related psychological constructs appear to not be linked to sexual orientation. In general, previous research supports the hypotheses of the proposed study which posits that sexual identity development will have a significant relationship with self-esteem and sexual orientation will not. The hypotheses of the study are also consistent with Marcia's theory. Marcia (1966) stated that "there will be a significant positive relationship between ego identity measures and a measure of self-esteem" (p. 552). In his seminal study, Marcia (1966) found that a significant relationship existed between ego identity and self-esteem; however, significant differences among individual identity statuses in relation to self-esteem were not found. While Marcia's (1966) hypothesis was only partially supported by her study's findings, Marcia suggested that this "may have been due to unreliability in

the self-esteem measure” (p. 556) over the two month time lag between the first and second administration of the *Self-Esteem Questionnaire* (the measure used by Marcia; deCharms & Rosenbaum, 1960). More recent work on self-esteem offers a second explanation for Marcia’s (1966) findings.

Marcia (1966) specifically investigated “ideological” and occupational identity development, he used a global measure of self-esteem. Some (e.g., Baumeister, Campbell, Krueger, & Vohs, 2003) have suggested the need for domain-specific measures of self-esteem to increase accuracy and interpretability of findings. Research (e.g., Oattes & Offman, 2007) has also demonstrated that domain specific measures of self-esteem are sometimes more accurate, or sensitive, measures of self-esteem than are global measures. One type of domain-specific self-esteem is *sexual self-esteem*, or the “affective reactions to subjective appraisals of sexual thoughts, feelings, and behaviors” (Zeanah & Schwarz, 1996, p. 3). This domain-specific type of self-esteem differs from *global self-esteem*, or “a positive or negative attitude toward the self” (Rosenberg, 1965, p. 30) in that the construct is much more narrowly defined. Both global self-esteem (Hally & Pollack, 1993) and sexual self-esteem have been identified as necessary or contributing to sexual comfort. Oattes and Offman (2007) found that while global self-esteem predicted ability to communicate sexual desires with a partner, sexual esteem predicted peoples’ ability to communicate sexual desires with partners better than global self-esteem. Specifically, using hierarchical regression, Oattes and Offman (2007) reported “that sexual self-esteem was a unique predictor of sexual communication over and above the contribution of global self-esteem” (p. 89). This finding suggests that global self-esteem might be excessively broad in nature and that research may benefit

from the utilization of domain specific self-esteem measures. Global self-esteem, however, has been used in ethnic identity development research. Umana-Taylor, Gonzalez-Backen and Guimond (2009), using a global measure of self-esteem (Rosenberg Self-Esteem Scale; Rosenberg, 1965), reported that self-esteem increased in Latino youth as identity development exploration increased. Research is needed to investigate the relative contributions of global versus domain-specific self-esteem to the identity development process. Umana-Taylor et al.'s (2009) findings lend direct support to Marcia's (1966) proposal that identity status is directly related to self-esteem. Oattes and Offman's (2007) findings also provide support for Marcia's (1966) proposal that identity status is directly related to self-esteem, and suggests that a specific measure of self-esteem is more sensitive and possibly beneficial in understanding how self-esteem is related to the ability to communicate about sexuality. Self-esteem is a crucial concern during adolescence and early adulthood (Erikson, 1968).

Findings on self-esteem as it relates to the college population have been related to mental health in general. For example, college students with higher levels of anxiety also report lower levels of self-worth and social confidence than those who are less anxious (Collins & Read, 1990). Self-esteem has also been found to play a role in predicting stress and depression in college students (Dixon & Kurpius, 2008). Similar results have been reported in even younger age groups. Bos, Sanfort, de Bruyn, and Hakvoort (2008) studied Dutch 13 to 15 year olds and found that teens who reported same-sex attractions reported higher levels of depression and lower levels of self-esteem than their peers who reported no same-sex attractions.

While the literature is consistent concerning various aspects of psychological functioning in relation to self-esteem, mixed results exist in the literature on the relationship between gender and self-esteem. Some research has suggested that no significant difference in self-esteem exists between college-aged men and women (Dixon & Kurpius, 2008; Woolfolk, Novalany, Gara, Allen, & Polino, 1995). Sex-role identity development status in college women has been shown to correlate with masculinity (Prager, 1983). Prager, (1983) reported that women in the achieved status of identity development scored higher on the Personal Attributes Questionnaire (PAQ; Spence, Helmreich, & Stapp, 1974). It must be noted that the PAQ might be considered dated and invalid by today's standards of what it means to be masculine, feminine, or androgynous. For example, women responded to bipolar items concerning independence, emotionality, how rough or gentle they were, etc. Prager (1983) found that as identity status progressed and women reported higher levels of "masculinity" they also reported higher levels of self-esteem as measured by a social self-esteem inventory (Texas Social Behavior Inventory, TSBI; Helmreich, Stapp, & Ervin, 1974) Because men were not included in this study, it is not possible to know if men, as their identities develop, also report higher levels of masculinity and, relatedly, self-esteem. Findings from Whitley (1988) further impede a clear understanding of Prager's (1983) findings. Whitley (1988) reported that the TSBI as a measure that, while only having one factor, has been used to measure both self-esteem and social capability actually measures what other scales refer to as masculinity. Adding further complexity to the relation between sexuality, gender, and self-esteem, recent findings (Rostosky, Dekhtyar, Cupp, & Anderman, 2008) suggest that males have lower sexual self-esteem and higher levels of sexual anxiety than women.

Overall, what has actually been labeled as self-esteem by some older instruments may have actually been measures of masculinity; for example, assertiveness has often been included in measures or concepts of both masculinity and self-esteem. More recent studies have relied almost exclusively on the Rosenberg scale, in part, because the instrument itself seems to have high face and construct validity. However, the complex intersection of gender, sexual orientation, and socio-historical setting requires that further investigation take place before a clear picture of how self-esteem relates to gender and sexuality can be pieced together.

These findings have implications for developing a GLB identity as anxiety about developing a sexual minority identity (e.g., minority stress) could be affected by hiding a GLB identity or disclosing a GLB identity (e.g., fear of parental rejection). Furthermore, while gender has not been shown to consistently interact with self-esteem, this does not preclude the possibility that levels of self-esteem may differ by gender within the GLB population. Savin-Williams (1995) found that girls who develop a lesbian identity at an earlier age seem to report especially high levels of self-esteem. Swann and Spivey, using the Rosenberg Self Esteem Scale (1965) and the Lesbian Identity Questionnaire (Fassinger & McCarn, unpublished) found that only the final phase of McCarn and Fassinger's (1996) theory of lesbian identity development was positively related to self-esteem while the other three phases were not significantly related to self-esteem. Because no domain-specific measure was used in Swann and Spivey (2004) it is not known if sexual self-esteem was related to developing a lesbian identity.

The fact that society has historically been more accepting of lesbian sexuality than gay male sexuality may play some role in self-esteem maintenance within the GLB

population. Previous research has indicated that there are different types of self-esteem; and while many have relied on global measures of self-esteem, there is reason to consider using measures of specific self-esteem in certain situations (Oattes & Offman, 2007). Because Marcia (1966) suggested that self-esteem was related to identity development and research has confirmed Marcia's position global self-esteem may be considered an important aspect of sexual identity development as well. Oattes and Offman (2007) have reported that sexual esteem is a stronger predictor of sexual communication than is global self-esteem and that gender differences between men and women for sexual esteem are non-significant. Similarly, research has found that mediated communication (e.g., internet use) plays a critical role in sexual identity development (Bond, Hefner, & Drogos, 2009). Interestingly, Bond et al.'s (2009) research found that self-esteem (using the Rosenberg scale) was not affected by the coming out process, which is often considered a stage in many sexual identity development models (e.g., Cass' *pride stage*). Because sexual identity development milestone literature (e.g., Floyd & Stein, 2002) has suggested that sexual behavior often plays a role in developing a sexual identity, and because GLB sexual identity development theories (e.g., Cass, 1979; McCarn & Fassinger, 1996) recognize the need to interact and communicate with others of a similar sexual orientation, both global and domain-specific sexual self-esteem are likely to be important in examining how sexual identity development and sexual orientation relate to self-esteem.

### **Sexual Esteem**

**Sexual esteem and identity development.** No articles that examined sexual esteem and identity development were located using PsycINFO. This can be taken to mean that

sexual esteem in relation to identity development in general and sexual identity development in particular has been largely unexamined. The lack of available research requires that the proposed study rely on extrapolation from theory and from empirical research investigating global self-esteem and identity development.

**Sexual esteem and sexual orientation.** Only one study that examined sexual esteem and sexual orientation met the criteria for inclusion in this review; this study was published in *Journal of Psychology & Human Sexuality* (1).

There has been very little written about sexual esteem in general; and that which has been written tends to examine sexual esteem in relation to exposure to pornography or in relation to body size or body image. All other articles that were located using the search terms referred to scale development of the Multidimensional Sexual Self-Concept Questionnaire (MSSCQ; Snell, 1998) or subscales and modifications of the MSSCQ.

### **Psychological distress**

**Psychological distress and identity development.** Two articles examined distress and identity development met the criteria for inclusion in this review. The articles came from *Community Mental Health Journal* (1), and *Psychology of Women Quarterly* (1).

One qualitative study (Graham, Braithwaite, Spikes, Stephens, & Edu, 2009) focused on Black men who have sex with men (MSM) and reported that Black men often feel that their racial and sexual identity are in competition and that this competition may lead to psychological distress during identity development. Distress may be related to familial rejection related to sexuality and by racism at large and within the sexual minority community. The authors theorized that the lack of support during identity development processes leads to distress. Szymanski and Owens (2008) argued that the link between

internalized heterosexism in relation to psychological distress has been well established. The authors found that problem solving and avoidant forms of coping partially mediated the relationship between internalized heterosexism and distress in lesbian women.

The findings from these two studies are only marginally linked to the proposed study because the main focus was on coping style and available support rather than how sexual identity development status is linked to distress; also neither study adequately measured sexual identity development status.

**Psychological distress and sexual orientation.** A total of six articles that examined self-esteem and sexual orientation met the criteria for inclusion in this review. These articles came from (in order from greatest to fewest articles per journal) *Journal of Consulting and Clinical Psychology* (2), *American Journal of Orthopsychiatry* (1), *American Journal of Public Health* (1), *Cultural Diversity and Ethnic Minority Psychology* (1), and *Journal of Counseling & Development* (1).

While some of the literature located using the designated terms failed to compare GLB samples with heterosexual samples in terms of distress (e.g., Miresghhi, Matsumoto, & Matsumoto, 2008; Rosario, Schrimshaw, Hunter, & Gwadz, 2002), Cochran and Mays (2007) reported that bisexual women reported the highest levels of distress, followed by homosexually experienced heterosexual women, lesbians, and exclusively heterosexual women. Homosexually experienced heterosexual men were found to have the highest level of distress, followed by bisexual men, gay men, and exclusively heterosexual men (Cochran & Mays, 2007). This study, with a large sample size ( $n = 2272$ ), may have reported results that are statistical artifacts; or perhaps, other studies have been insufficiently large to detect differences. In general, studies in this area

consistently fail to consider sexual identity development status in relation to distress and focus exclusively on sexual orientation; which is a significant limitation.

Marcia (1966) suggests that ego identity development status has direct implications for psychological wellbeing. While those with an achieved identity status are less likely to be “overwhelmed by sudden shifts in [their] environment or by unexpected responsibilities” (p. 552) those in a state of moratorium are “*in the crisis period*” (Marcia, 1966, p. 552, italics from original). Furthermore, for those in foreclosure, it is difficult to discern where parental influence ends and where the individual’s identity begins, that college experiences provide confirmation of inherited beliefs, and that situations for which no script has been inherited may result in extreme distress (Marcia, 1966). A logical extrapolation of this is that associated concerns may lead to interpersonal and intrapersonal role distress. In identity diffusion the lack of commitment to a set of ideologies may lead to role confusion in situations where the individual is expected to have some set of beliefs that are his own and inconsistency in belief systems may cause interpersonal conflict or cause the person to seem inconsistent to others as he or she “takes a smorgasbord approach” (Marcia, 1966, p. 552) and chooses inconsistently from ideologies that seem agreeable at any given time. During identity development, individuals may experience anxiety (Block, 1961) and may also experience temporally variable identity stability (Bronson, 1959). Marcia (1966) notes that two themes predominate in studies of identity development: “a variability-stability dimension of self-concept and overall adjustment” (p. 552). Essentially, Marcia (1966) suggested that those with achieved identity are less likely to be distressed and confused, and freer

from anxiety and related stress than those having a diffuse, moratorium, or foreclosed identity status.

Arnett (2000), extending the process of identity development into a stage of emerging adulthood (previously described as “extended adolescence” by Erikson, 1968), posited that young adults experience (e.g., traditional college students) “a considerable amount of change and instability while working through various possibilities in love and work in the course of establishing a life structure” (p. 470). Arnett’s position is consistent with observations made by Marcia (1966) and suggests that individuals may experience stress, anxiety, and confusion over interpersonal relationships and self-understanding while developing their identities. Such symptoms or concerns have also been widely accepted and identified as “adjustment problems” or “phase of life problems” in the *Diagnostics and Statistics Manual-IV-Text Revision* (DSM-IV-TR; American Psychiatric Association, 2000). The DSM-IV-TR outlines that, while, anyone can experience adjustment or phase of life problems under certain circumstances, this diagnosis is used frequently in college student populations. Adjustment disorders are especially common in cases where college students are learning to become more autonomous and establish relationships while having their previously held beliefs challenged both in classes and by interactions with peers who hold or represent different ways of being or perceiving the world. Indeed, “the characteristics that matter most to emerging adults in their subjective sense of attaining adulthood are...individualistic *qualities of character*” (Arnett, 2000, p. 472-473, italics from original). Arnett’s “qualities of character” translates readily into the construct of ego identity development precisely because such qualities reciprocally interact with the individual’s sense of self.

These qualities further build on previous theory (e.g., Erickson, 1963; 1968) by expanding what may be included in the process of identity development that was not addressed by Marcia (1966), such as ideas about romantic relationships, becoming responsible for one's self and increasing autonomy in decision making (Arnett, 1998; 2000).

Schwartz, in reviewing the literature on identity development, noted that findings suggest that “diffused individuals are generally apathetic and distressed” (Marcia, 1980 as cited in Schwartz, 2001, p. 13) and that these individuals tend to have higher risks for academic problems (Berzosky, 1985), drug abuse (Jones, 1992), increased similarity in personality characteristics shared by those who have been diagnosed with bulimia (Auslander & Dunham, 1996) interpersonal problems such as distancing family (Jackson, Dunham, & Kidwell, 1990) and poor interpersonal skills (Schwartz, 2001). Furthermore, “a significant percentage of [diffused individuals] are likely to be depressed” (Marcia, 1993a as cited in Schwartz, 2001, p. 13).

Many studies have linked sexual orientation to psychological distress (e.g., Bagley & Tremblay, 2000; Cabaj, 1989; D'Augelli & Hershberger, 1993). Such studies indicate that GLB youth, especially males, may attempt suicide four times as often as those who are not identified as sexual minorities (Bagley & Tremblay, 2000). A majority of these studies, however, were conducted in clinical settings, which likely biased the results towards GLB individuals with greater distress in general – especially when compared to non-clinical heterosexual control groups (Savin-Williams, 2005). Those studies that report such findings in non-clinical samples repeatedly suggest that parental disapproval, societal stigma, harassment at school, and other environmental

factors may increase the risk of psychological distress and suicidality in GLB youth. Furthermore, previous interpretations suggesting comorbidity among psychological problems and GLB orientation have been refuted (for a review see APA Task Force on Appropriate Therapeutic Responses to Sexual Orientation, 2009).

An American Psychological Association (APA) special task force recently reviewed the corpus of sexual orientation literature within psychology and concluded that many of the older studies (especially those studies investigating the effectiveness of reparative therapy”) were poorly constructed (APA Task Force on Appropriate Therapeutic Responses to Sexual Orientation, 2009). Specifically, the APA task force concluded that sexual orientation is not necessarily indicative of mental illness. This position is further supported by the American Psychiatric Association in the removal of homosexuality from the DSM in 1973 (American Psychiatric Association, 1973). Other flaws in early GLB research have been identified as well. Early studies of GLB individuals often failed to include healthy, non-clinical people in their samples (Savin-Williams, 2005) and tended to focus more on sexual orientation as a single identity component instead of examining sexual orientation in the context of other identity characteristics (e.g., race/ethnicity). Sexual identity development has also been similarly under-researched and only took its place as a legitimate field of study following the popularization of the Cass (1979; 1984) model (although this was not the first sexual identity development model). Recent research has explored the complexity of sexual orientation and sexual identity development in relation to other factors.

For example, Paul and Frieden (2008) found that gay men consistently reported grief reactions in the actual event or anticipation of rejection upon coming out as gay to

those whom they relied on for support. Self-complexity, which theoretically increases as identity stabilizes, has also been found to predict prognosis in college students.

Specifically, high negative self-complexity has been found to correlate with depressive symptoms and predict poor prognosis and impaired recovery from depression in a clinical sample (Woolfolk et al., 1995). Successful GLB identity development has been linked to psychological wellbeing. Moe, Dupuy, and Laux (2008) found that identity development was able to predict levels of hope, optimism, and life engagement. Positive character traits may also result from developing a sexual minority identity. Riggle, Whitman, Olson, Rostosky, and Strong (2008), in a qualitative sample of 553 gay and lesbian individuals from a community sample, found that gay men and lesbian women reported increased empathy and compassion for others, increased closeness in relationships of choice (with or without ostracism from biological families), personal insight and sense of self, liberation from gender-typed standards of behavior, and egalitarian romantic relationships. Since sexual identity development achievement can be associated with positive outcomes (Riggle et al., 2008), it may also be possible to identify psychological struggle associated with certain identity development statuses. This position is consistent with Marcia's (1966) proposal that specific identity development statuses are linked to psychological experiences. Specifically, Marcia (1966) proposed that diffusion and moratorium may be linked to low self-esteem and high psychological distress.

Measuring sexual psychological distress using a global measure as well as a domain specific measure may be important to understanding how the two different, but related, constructs differ based on sexual identity development status. Oattes and Offman (2007), while examining self-esteem, found that domain specific self-esteem was

more predictive of college students' ability to communicate sexual information in intimate relationships than was their level of global self-esteem. This suggests that considering different domains of global self-esteem may improve predictive power and better inform clinical interventions than research that has considered only global self-esteem.

### **Sexual Anxiety**

#### **Sexual anxiety and identity development**

No articles that examined sexual anxiety and identity development met the criteria for inclusion in this review. This indicates a significant gap in the literature and illustrates a need for further research in this area.

#### **Sexual anxiety and sexual orientation**

A total of six articles that examined sexual anxiety and sexual orientation met the criteria for inclusion in this review. The included articles came from (in order from greatest to fewest articles per journal) *British Journal of Psychiatry* (2), *Journal of Consulting and Clinical Psychology* (1), *Journal of the Indian Academy of Applied Psychology* (1), *Sexual and Marital Therapy* (1), *The Journal of Sex Research* (1). Two of these studies differ significantly in content from the other articles located in this search and each is given separate attention herein.

Patterson and O'Gorman (1989) noted that a low "heterosexual score might be found in a homosexual subject, in an individual with transient loss of libido, such as might occur in depression, or in an individual with low sex drive" (p. 374). Findings indicated that scores obtained from heterosexual men, regardless of their female sexual partner's level of sexual dysfunction, did not differ significantly from other heterosexual

men; however, women sexual partners of men who experienced sexual dysfunction scored higher in “heterosexual anxiety” than other women. The authors had hypothesized that an inverse relationship between heterosexual anxiety and degree of heterosexuality. This hypothesis was not supported in either men or women, suggesting that sexual orientation may not be related to sexual anxiety in a manner consistent with various theories of sexual dysfunction (Patterson & O’Gorman, 1989).

In another study, Patterson and O’Gorman (1990) sought to examine differences in sexual anxiety in samples of clinically and non-clinically distressed “homosexual” [sic] men. Gay men in a non-clinical group reported higher heterosexual anxiety scores and lower homosexual anxiety scores than gay men from the clinical sample. Based on the findings, the researchers suggested that two types of gay men may exist and that while one subgroup of gay men may experience a clinical level of distress surrounding their sexual orientation (i.e., low *homosexual interest* and high *homosexual anxiety*) while another subgroup likely does not experience significant distress concerning their sexual orientation (i.e., high *homosexual interest* and low *homosexual anxiety*). A significant limitation in this study, however, was that the authors failed to measure or account for sexual identity development status. This is significant because previous theory has suggested that sexual identity status may be linked to mental health.

The other four of these articles were scale development and validation studies (i.e., Chambless & Lifshitz, 1984; Janda & O’Grady, 1980; Kumar, 1994; Patterson & O’Gorman, 1986). Importantly, Patterson and O’Gorman (1986) noted that “sexual anxiety...is not merely a reflection of general anxiety” (pg. 66). More specifically, Patterson and O’Gorman (1986) found that participant scores on the sexual anxiety

subscale of the Sexual Orientation Method and Anxiety questionnaire did not significantly correlate with participant scores on The Taylor Anxiety Scale (Taylor, 1953) or the Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975), which suggests that sexual anxiety may have unique characteristics that differentiate it from global anxiety.

**Identity development and sexual orientation.** A total of 12 articles that examined identity development and sexual orientation met the criteria for inclusion in this review. The included articles came from (in order from greatest to fewest articles per journal) *Cultural Diversity and Ethnic Minority Psychology* (3), *Developmental Psychology* (2), *Journal of Counseling & Development* (1), *Journal of Counseling Psychology* (1), *Journal of Mental Health Counseling* (1), *Journal of Personality* (1), *Journal of Sex Research* (1), *Journal of Social Issues* (1), and *Social Work* (1).

Research on sexual identity and sexual orientation has recently focused primarily on two main areas: psychological wellbeing and multiple or dual minority individuals. Recent research has demonstrated that acquisition of a positive gay or lesbian identity is related to healthy psychological functioning (Bringaze, & White, 2001; Riggle et al., 2008). These same findings have yet to be replicated in bisexual and heterosexual individuals in relation to sexuality.

The second area of study, dual minorities, has led to the identification of certain themes. Specifically, themes such as earlier awareness of sexual minority status, dual oppression, and connection to the GLB community have been uncovered (Jamil, Harper, & Fernandez, 2009; Parks, Hughes, & Matthews, 2004; Rosario, Schrimshaw, & Hunter, 2004). While milestones of sexual identity development have been examined in relation

to race and sex, sexual identity development across sexual orientations and sexes has yet to develop. Furthermore, much of the extant literature has relied strictly on models of GLB identity development and has failed to identify how development of a heterosexual identity is related to psychological constructs.

The extant research findings suggest that there is a notable dearth in the literature concerning the relationship between sexual identity development and sexual anxiety. Investigators have demonstrated a similarity in severity of sexual anxiety regardless of sexual orientation. Findings have also depicted a positive correlation between identity actualization and mental health. For example, increased self-esteem has been found in relationship with progressive identity development in sexual minority individuals. While some studies have provided limited insight into how sexual identity development and sexual orientation are related to sexual anxiety and wellbeing, there is still much to discern before a complete picture of the interrelationships of these variables can be compiled. Further clarification of the interconnections among the specified variables is needed. The current study will be exploratory in nature and may serve as an impetus from which more complex analyses (e.g., path models, structural equation models) of sexual identity development and sexual orientation could be undertaken.

### **Research Question and Hypotheses**

After reviewing the literature, certain relationships emerged and provided a foundation for further investigation. Both sexual orientation and sexual identity development have been used in studies that have examined GLB issues in relation to a variety of other psychological constructs. Identity development in general and development of a GLB identity specifically, have been linked to variation in

psychological distress (e.g., Floyd & Stein, 2002; Marcia, 1966) and self-esteem (or self-acceptance; e.g., Willoughby, Malik, & Lidahl, 2006). Most saliently, researchers who investigate sexual identity development and sexual orientation have reported fewer differences in psychological distress and self-esteem between GLB and heterosexual individuals once researchers began to use non-clinical samples of GLB people and heterosexual individuals (Savin-Williams, 2005). Another reason that fewer differences have been found in more recent research (in addition to the use of non-clinical samples) is that many individuals are coming out and being open about their sexuality earlier in their lives; a decision that has been linked to positive mental health outcomes (Floyd & Stein, 2002, Savin-Williams, 2005).

Because of the lack of clarity in the sexual identity development research (Savin-Williams, 2005) and the numerous (mostly untested) models of sexual minority identity development compared to heterosexual identity development, the proposed study seeks to examine how sexual identity development and sexual orientation relate to both global and domain-specific self-esteem and psychological distress. These relationships are important for psychotherapists to consider. It would be helpful to better understand how self-esteem and psychological distress relate to and differ by sexual identity development status versus sexual orientation.

Research question: Are there differences in college students' global self-esteem, domain specific (sexual) esteem, global psychological distress, and domain specific psychological distress (i.e., sexual anxiety) based on sexual identity status and sexual orientation?

H1: College students will differ in global self-esteem, sexual esteem, psychological distress, and sexual anxiety as a function of sexual identity development status.

H2: College students will not differ in global self-esteem, sexual esteem, psychological distress, and sexual anxiety as a function of sexual orientation.

H3: No interaction effect between sexual identity development and sexual orientation will be observed.

## CHAPTER 3 – METHOD

### Participants

Initial data was composed of 1294 response sets. Participants were eliminated if they: did not agree to the informed consent; indicated that they did not understand key terms in the survey; were outside of the target age range; self-identified a sexual orientation other than gay/lesbian, bisexual, or heterosexual; self-identified as gender other than male or female; or had more than 13 missing data points across all measures. Sixty-eight participants' data were eliminated from further analysis because they did not have a differentiated sexual identity development status. Three hundred thirteen participants indicated that they completed the survey twice; only their initial responses were retained for analysis. After reviewing demographic variables (gender, sexual orientation, race/ethnicity, and participant home institution) between the original and final sample, no significant differences (more than 2% change) were observed in any of the response patterns for those variables. The final sample used for analysis was composed of 791 students from two universities: Ball State University (BSU;  $n = 724$ , 61.1%) and Indiana University-Bloomington (IUB;  $n = 67$ ).

Participants included in analysis were men ( $n = 189$ ) and women ( $n = 602$ ). The mean age for participants was 22.48 years-old ( $SD = 1.87$ ) and all participants were between 18 and 25 years-old. Participants self-identified as Gay Men ( $n = 26$ ), Lesbian

Women ( $n = 24$ ), Bisexual Men ( $n = 18$ ), Bisexual Women ( $n = 57$ ), Straight (Heterosexual) Men ( $n = 144$ ), and Straight (Heterosexual) Women ( $n = 522$ ).

Respondents self-identified as Caucasian/White ( $n = 698$ ), African American/Black ( $n = 33$ ), Hispanic/Latina/Latino ( $n = 20$ ), Native American/American Indian ( $n = 2$ ), Asian American ( $n = 14$ ), Biracial/Multiracial ( $n = 16$ ) and international student/not a U.S. citizen ( $n = 7$ ). One individual did not report his or her race. The majority of participants ( $n = 455$ ) reported that they were in a relationship.

### **Procedure**

IRB approval was obtained from BSU (Muncie, IN) and from IUB (Bloomington, IN). At BSU, a campus wide e-mail (see Appendix A) was sent to all BSU students. A similar recruitment e-mail was sent to graduate in the department of Counseling and Educational Psychology at IUB. The e-mail included a link to the survey on InQsit (Fortriede & Draper, 2009). The online survey directed participants to an informed consent page (see Appendix B). Participants were required to acknowledge that they read and agreed to the terms of the study by selecting an option indicating that they understood the nature of the study. After confirming that they understood the nature of the study, participants were directed to the survey (see Appendix C). The survey was set up to require that participants indicate their understanding of basic definitions and instructions for each set of items before completing each section of the survey. Debriefing information (Appendix D) was provided after participants submitted their responses.

Participants were provided with one of two types of incentives. BSU students enrolled in a CPSY course could receive credit towards their class research participation

requirement. Among those students who did not receive course credit, the researcher randomly selected two students from each institution to receive one \$20 Amazon.com gift card. Participation in this study was anonymous. Those who requested course credit or entry into the giveaway were provided with the primary investigator's e-mail address as part of the debriefing information.

### **Instruments**

**Sexual orientation.** Participants self-reported their sexual orientation (heterosexual, gay, lesbian, bisexual, and other). Using a self-report method to assess sexual orientation has two distinct advantages for the proposed study. First, unlike other methods of measuring sexual orientation (e.g., Kinsey-type items), self-report reflects how the individual identifies without inadvertently misclassifying individuals who are sexually inexperienced with one sex or the other. Second, psychotherapists are likely to rely on self-reported sexual orientation when working with clients and therefore the analysis, which relies partially on participant sexual orientation, will more accurately reflect the counseling setting and therefore increase the utility of the results of the proposed study.

**Sexual identity development status.** Marcia (1966) and Worthington et al. (2008) delineate four distinct identity statuses. Because theory and research indicate that four statuses exist, and that these statuses are categorical but not continuous or hierarchical, sexual identity was treated as a four-level independent categorical variable. While some previous research has collapsed the foreclosure and moratorium statuses, this treatment of data decreases the utility of the research because of decreased applicability to a clinical setting and does not allow for deeper understanding of how Marcia's (1966)

ego-identity development model can be extrapolated to various constructs, such as sexual identity development. In this study, identity development status was treated in a manner consistent with theory in order to correct previous collapsing of data from participants in the foreclosure or the moratorium statuses.

Participants were categorized into four groups based on each participant's highest status score on the Measure of Sexual Identity Exploration and Commitment (MoSIEC; Worthington et al., 2008), a 22-item measure that assesses sexual identity development. Each of the MoSIEC items is rated on a 6-point Likert-type scale (1 = very uncharacteristic of me; 6 = very characteristic of me; Worthington & Reynolds, 2009). Four of the items were reverse scored. The MoSIEC uses four subscales that are conceptually driven by Marcia's (1966) four phases of identity development. These subscales are: Commitment, Exploration, Sexual Orientation Identity Uncertainty, and Synthesis/Integration (Worthington et al., 2008). Subscale scores are calculated by averaging the response values associated with each subscale. If an item associated with a subscale is missing, the remaining items can still be averaged to obtain a subscale score. This method ensures that scores can be computed and are comparable when a limited amount of data is missing (R. L. Worthington, personal communication, February 23, 2009). The MoSIEC can be used with individuals of various sexual orientations (including those of heterosexual sexual orientation).

The psychometric properties of the MoSIEC have been found to be acceptable across multiple studies. Worthington et al. (2008) reported two-week test-retest reliability for the MoSIEC was .80 for the 6-item Commitment subscale, .85 for the 8-item Exploration subscale, .90 for the 3-item Uncertainty subscale, and .71 for the 5-item

Synthesis subscale. Worthington and Reynolds (2009) reported acceptable Cronbach's alphas for each of the four subscales (Commitment = .84, Exploration = .89, Uncertainty = .73, Synthesis = .83). Dillon, Worthington, Soth-McNett, and Schwartz (2008) reported similar psychometrics for the MoSIEC. Convergent validity for subscales of the MoSIEC has been demonstrated through moderate correlations with the Sexual Awareness Questionnaire (SAQ; Snell, Fisher, & Miller, 1991) and the Sexual Attitudes Scale (SAS; Hudson, Murphy, & Nurius, 1983). Specifically, Worthington et al. (2008) found that the MoSEIC Commitment subscale was positively correlated with SAQ Sexual Self-Consciousness ( $r = .45$ ) and SAQ Sexual Assertiveness ( $r = .41$ ). The MoSEIC Exploration subscale was inversely related to the SAS Sexual Conservatism subscale ( $r = -.36$ ) and positively correlated with the SAQ Sexual Self-Consciousness subscale ( $r = .32$ ) and the SAQ Sexual Self-Monitoring subscale ( $r = .30$ ). The MoSEIC Synthesis subscale was positively associated with SAQ Sexual Self-Consciousness subscale ( $r = .42$ ) and SAQ Sexual Assertiveness subscale ( $r = .29$ ; Worthington et al., 2008). For the sample in this study, evidence of internal consistency reliability was found for the MoSEIC ( $\alpha = 0.768$ ,  $M = 82.450$ ,  $SD = 11.909$ ) total score; and for the Exploration ( $\alpha = 0.877$ ,  $M = 27.03$ ,  $SD = 8.974$ ), Commitment ( $\alpha = 0.797$ ,  $M = 27.580$ ,  $SD = 5.259$ ), Synthesis ( $\alpha = 0.736$ ,  $M = 23.02$ ,  $SD = 3.998$ ), and Uncertainty ( $\alpha = 0.867$ ,  $M = 4.820$ ,  $SD = 2.736$ ) subscales.

**Psychological distress.** Psychological distress has been defined as functioning that is "unpleasant and upsetting to the individual" (Comer, 1995, p. 3). Psychological distress was measured using the Outcome Questionnaire-45 (OQ-45; Lambert et al., 1996) and was treated as a continuous dependent variable. The OQ-45 consists of 45

items that can be used to calculate three subscales (*symptom distress*, *interpersonal relations*, and *social role*) or an overall score (Lambert et al., 1996). While most individuals can complete the self-administered OQ-45 in around five minutes, those who are especially careful may require up to 20 minutes completing the instrument (Lambert et al., 1996). Lambert et al. (1996) suggested that when respondents fail to answer all items, that a substitute value can be computed by averaging the scores from the other items within the same subscale and rounding the mean value to the nearest whole number. This value is then substituted for any missing values and the subscale, as well as the overall OQ-45 score, can be calculated. Normative data for the OQ-45 has been reported in terms of population (e.g., clinical samples, community samples, undergraduate samples). When administered to undergraduate students, three studies ranging in sample size from 131 to 235, reported mean scores of 42.15 ( $SD = 16.61$ ), and 51.34 ( $SD = 24.45$ ), respectively (Lambert et al., 1996). This is similar to a community sample study with a sample size of 815 participants that reported a mean score of 45.19 ( $SD = 18.57$ ; Lambert et al., 1996). No gender bias has been found for the OQ-45. For example, no significant differences were found for undergraduate men (mean = 42.73,  $SD = 15.89$ ) and undergraduate women (mean = 42.10,  $SD = 17.21$ ) (Lambert et al., 1996). Gender-specific norms have been deemed unnecessary because of the similarity in scores (Lambert et al., 1996). Similarly, age has not been found to have a significant impact on OQ-45 scores and therefore age-specific norms have also been deemed unnecessary (Lambert et al., 1996). Research has also demonstrated that significant differences do not exist among certain racial/ethnic groups. Specifically, in a study of Employee Assistance Program (EAP) clients, significant differences were not found among OQ-45 scores from

individuals who identified as Caucasian, African-American, Hispanic, and Other racial/ethnic groups (Lambert et al., 1996).

The OQ-45 has been shown to have high internal consistency reliability ( $\alpha = 0.93$ ,  $p < .01$ ) and test-retest reliability ( $r = 0.84$ ,  $p < .01$ ) for a sample of 157 undergraduate students (Lambert et al., 1996). Convergent validity of the OQ-45 has been well established. For example, the OQ-45 has been found to correlate with the Beck Depression Inventory (Beck, et al., 1961;  $r = 0.7959$ ,  $p < .01$ ), the Social Adjustment Scale (Weissman & Bothwell, 1976)  $r = .6449$ ,  $p < .01$ ), the SF-36 Medical Outcome Questionnaire (Ware, Snow, Asinski, & Gandek, 1994;  $r = .81$ ,  $p < .01$ ) and, in a college counseling center population (Umphress, 1995), with the SCL-90-R (Derogatis, 1977;  $r = 0.78$ ,  $p < .01$ ). For the sample used in this study, the OQ-45 was found to have high reliability ( $\alpha = 0.941$ ,  $M = 103.580$ ,  $SD = 23.263$ ).

**Global self-esteem.** Global self-esteem has been defined as “an overall positive or negative attitude toward the self (Rosenberg & Rosenberg, 1978, p. 280). Self-esteem was treated as a continuous dependent variable. The ten-item *Rosenberg Self-Esteem Scale* (RSES; Rosenberg, 1965) was selected as a measure of global self-esteem. The RSES is the most widely used measure of global self-esteem and has consistently been found to be reliable and valid. Schmitt and Allik (2005) conducted a study with over 16,000 participants and found that the “factor structure was largely invariant across” samples from different nations (p. 623). In a sample of undergraduate college students, Pelham and Swann (1989) found the RSES to have an internal consistency of  $\alpha = .82$ . In a sample of gay male undergraduate students at public universities, Pachankis and Goldfried (2010) found the RSES to be reliable ( $\alpha = .86$ ). In another recent study

(Szymanski & Gupta, 2009), the RSES was also found to have acceptable reliability ( $\alpha = .88$ ). Self-esteem has been demonstrated to differ from sexual esteem. Prior research has indicated that global self-esteem and sexual esteem were found to have a positive relationship ( $r = .610, p < .01$ ) and share 37% of variance (Oattes & Offman, 2007); which suggests the constructs are related but are not the same, providing evidence of convergent validity. For the current study, the internal consistency reliability of the RSES was found to be acceptable ( $\alpha = 0.791, M = 30.680, SD = 4.402$ ).

**Domain-specific sexual-esteem and sexual anxiety.** Sexual anxiety has been “defined as the tendency to feel tension, discomfort, and anxiety about the sexual aspects of one’s life” (Snell, 1998, p. 521). Sexual Esteem has been “defined as the motivation and desire to be involved in a sexual relationship” (Snell, 1998, p. 521). Both constructs were measured using modified subscales of The Multidimensional Sexual Self-Concept Questionnaire (MSSCQ; Snell, 1998) and subscale scores were treated as continuous variables. Specifically, the two subscales used were the Sexual Anxiety and Sexual Esteem subscales of the MSSCQ. The MSSCQ was created through an extensive development and validation process that relied heavily on college student samples, making it appropriate for use in this study. The MSSCQ is comprised of 20 subscales and 100 items. Each subscale, including the Sexual Anxiety subscale and the Sexual Esteem subscale, has five questions that are answered on a four-point Likert-Type scale (1 = very uncharacteristic of me; 4 = very characteristic of me). Much like the MMPI-II, not all subscales were present in the initial version of the instrument. The Sexual Anxiety subscale and the Sexual Esteem subscale, however, were two of the earliest subscales included; which has led to slightly more empirical validation of these two scales in

comparison to the other subscales (Snell, 1995; Snell, Fisher, & Walters, 1993; Snell & Papini, 1989). The psychometrics of the Sexual Anxiety subscale have been consistently high. In a sample of Midwestern university students, Cronbach's alpha for the Sexual Anxiety subscale was reported to be .84 (Snell, 1998). Validity of the MSSCQ subscales was reported by Snell (1995), who found that sexual anxiety was negatively associated with contraceptive use by college students while sexual-esteem was positively related to contraceptive use in the same sample. In a factor analytic study, Snell and Papini (1989) found that a version of the sexual-esteem subscale was identifiably divergent from two other factors (sexual-preoccupation and sexual-depression). Sexual-esteem was found to have a moderate inverse relationship with sexual-depression ( $r = -.56$ ) and a non-significant correlation with sexual-preoccupation ( $r = -.11$ ; Snell & Papini, 1989). Rostosky et al. (2008) used the same versions of the subscales that were used in this study and found that sexual-esteem explained 26% of the variance while sexual anxiety explained almost 24% of the variance. The two subscales were found to be minimally, but significantly correlated ( $r = .12$ ). Level of sexual knowledge was significantly, positively correlated with sexual-esteem ( $r = .21$ ) while not being significantly correlated to sexual anxiety. Internal consistency in the same study was high for both subscales (sexual-esteem  $\alpha = 0.90$ , sexual anxiety  $\alpha = 0.88$ ).

Cronbach's alpha for the sexual esteem scale (.88) and for the sexual anxiety scale (.84) were previously found to be acceptable (Snell, 1998). Rostosky et al. (2008) reported that by taking items from five of the 20 subscales that compose the full MSSCQ (Snell, 1998) and performing factor analysis, that two subscales emerged which were

primarily composed of the items found in the MSSCQ subscales for sexual esteem and sexual anxiety.

Rostosky et al. (2008), using a modified version of the MSSCQ with a sample of high school students, found that the two subscales explained a total of 50.14% of the variance. High reliability was found for both the sexual esteem scale ( $\alpha = 0.90$ ) and the sexual anxiety scale ( $\alpha = 0.88$ ). A mean score of 3.41 ( $SD = .097$ ) for the sexual esteem subscale and a mean score of 2.38 ( $SD = 0.90$ ) for the sexual anxiety subscale were reported by Rostosky et al. (2008); which suggests adequate ceiling and floor values for the subscales; which suggests an improvement over the original five-item subscales. Intercorrelation between the two subscales was found to be minimal ( $r = .12, p < .05$ ) in a high school sample (Rostosky et al., 2008). This modified 16-item (eight items per subscale) version of the MSSCQ Sexual Esteem and Sexual Anxiety subscales were used in this study. While the brevity of the subscales made their use ideal for research, more importantly, the attention to psychological functioning at a domain-specific level provided a unique contribution to the current overall findings of this study. In the current investigation, both the 8-item Sexual Esteem scale ( $\alpha = 0.920, M = 29.282, SD = 7.019$ ) and the 8-item Sexual Anxiety scale ( $\alpha = 0.904, M = 17.601, SD = 7.211$ ) were found to be reliable.

**Demographic information.** Eleven items regarding demographic information were included in the survey. Participants were asked to indicate their sexual orientation. Sexual orientation was treated as a two-level categorical independent variable (sexual minority/GLB vs. heterosexual/straight). Participants also reported their sex, which was treated as a two-level categorical independent variable (male vs. female). Those who

identified as transgender were excluded from the data analyses. In order to be able to describe the sample further, participants also reported their race/ethnicity, age, education level, and relationship status.

### **Data analyses**

A 4 X 2 (Sexual Identity Status X Sexual Orientation) MANOVA was conducted in order to test the hypotheses, H1: “Do college students vary in global self-esteem, sexual esteem, and psychological distress as a function of sexual identity development status?;” H2: “Do college students vary in global self-esteem, sexual esteem, and psychological distress as a function of sexual orientation?;” and H3: “Is there an interaction between sexual identity development and sexual orientation?.” MANOVA offers certain advantages over a series of ANOVAs. Specifically, Type I error is reduced and “by measuring several DVs instead of only one, the researcher improves the chance of discovering what it is that changes” (Tabachnick & Fidell, 2001, p. 322). One disadvantage of using a MANOVA in the proposed study is that “even moderately correlated DVs diminish the power of MANOVA” (Tabachnick & Fidell, 2001, p. 323). Tabachnick and Fidell (2001) stated that a “MANOVA is used to ask whether a combination of [dependent] measures varies as a function of treatment...emphasizes the mean differences and statistical significance of differences among groups” (p. 322) and whether significant findings are likely to have occurred by chance. Furthermore, MANOVA creates a new multivariate function, to test significance; in this case, based on the relationship between participants’ self-esteem, sexual esteem, psychological distress, and sexual distress scores.

One of the underlying assumptions of MANOVA is normal distribution of the dependent variables. A histogram for each dependent variable was created and reviewed and distributions were deemed acceptable. Furthermore, the “central limit theorem suggests that the sampling distributions of means approaches normality even when raw scores do not” (Tabachnick & Fidell, 2001, p. 329). Tabachnick and Fidell (2001) suggest that for large samples (those with more than 20 degrees of freedom for error), the central limit theorem applies and the MANOVA maintains its robustness. In the current sample, the degrees of freedom for error were deemed sufficiently high to ensure normality. Another assumption of MANOVA is homogeneity of variance. Homogeneity of variance was tested using Box’s *M* test, “a notoriously sensitive test of homogeneity of variance-covariance” (Tabachnick & Fidell, 2001, p. 330). According to standards outlined in Tabachnick and Fidell (2001), Box’s *M* test must not be significant at the  $p < .001$  level if homogeneity of variance is to be assumed.

In addition to MANOVA, Discriminant Function Analysis was conducted as a second step. DFA was selected over the traditional univariate analysis of variance (ANOVA) tests because it allows for the removal of groups that fail to provide additional explanation beyond those already included in the function and because the underlying statistics between MANOVA and DFA are more parsimonious (DFA is the reverse of MANOVA) than the underlying statistics between MANOVA and ANOVA. DFA also accounts for covariance among variables; thereby removing the overlapping contributions among separate variables.

## CHAPTER 4 – RESULTS

Missing data were handled based on the recommendation of Schafer and Graham (2002). Specifically, a series of 10 multiple imputations were used to replace missing responses on the psychological distress (OQ-45), global self-esteem (RSES), sexual distress (Sexual Anxiety scale), and sexual-esteem (Sexual Esteem) measures. The data was analyzed ten times and then the combined average was reported as prescribed by Schafer and Graham (2002). This is a more rigorous treatment of missing data than mean replacement (Schafer & Graham, 2002). Missing responses on the sexual identity development status (MoSEIC) items were not imputed or replaced. Instead, it was recommended that the available responses be averaged with no attempt to replace missing values (R. L. Worthington, personal communication, February 29, 2009). Because of an error with uploading the survey into inQsit, 10 items from the OQ-45 were initially missing from the online survey. This error was corrected after the data collection process began, and it was determined that no individual participant was missing more than a total of 13 items across all five scales. Furthermore, no individual was missing more than a combined total of three items on the MoSEIC, RSES, Sexual Distress or Sexual Esteem scales. A summary of the number of responses missing for each scale is as follows: 10 items on the RSES, 11 items on the Sexual Anxiety scale, 13 items on the Sexual Esteem scale, and 56 items on the MoSEIC and 6430 items on the OQ-45) A total of 8.8% of the

data was missing; or 6520 data points out of 73563 data points. Mertler and Vannatta (2005) suggested that having less than 10% missing data was not problematic in conducting multivariate statistical analyses.

In order to provide information about the sample, means and standard deviations for each dependent variable were calculated for each identity development status and the overall sample (See Table 1).

Table 1

*Means & standard deviations, four sexual identity development statuses (SIDS)*

<u>SIDS</u>	<u>Sexual Esteem</u>		<u>Sexual Distress</u>		<u>Global Esteem</u>		<u>Global Distress</u>	
	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)
Exploration ( <i>n</i> = 99)	25.156	(7.313)	22.546	(7.648)	28.967	(4.372)	118.869	(24.396)
Commitment ( <i>n</i> = 352)	30.330	(6.552)	15.834	(6.468)	31.411	(4.290)	100.284	(2.093)
Synthesis ( <i>n</i> = 332)	29.596	(6.872)	17.765	(6.955)	30.506	(4.306)	101.913	(20.836)
Moratorium ( <i>n</i> = 8)	21.174	(6.984)	27.375	(7.130)	26.875	(5.743)	128.625	(27.810)
Total ( <i>n</i> = 791)	29.282	(7.019)	17.601	(7.211)	30.680	(4.402)	103.580	(23.263)

Intercorrelations among all independent and dependent variables in the present study were computed and are compiled in Table 2. Several significant relationships among the variables were observed. Sexual identity development status was significantly and positively correlated with sexual esteem ( $r = 0.099, p \leq 0.005$ ) and significantly and negatively correlated with psychological distress ( $r = -0.126, p \leq 0.000$ ) and sexual distress ( $r = -0.070, p \leq 0.050$ ). Although the noted correlations were significant, Pearson's  $r$  values were very small. Psychological distress was significantly and positively correlated with sexual distress ( $r = 0.486, p \leq 0.000$ ), and significantly and negatively correlated with self-esteem ( $r = -0.672, p \leq 0.000$ ) and sexual esteem ( $r = -0.0443, p \leq 0.000$ ). Sexual distress was significantly and negatively correlated with self-esteem ( $r = -0.386, p \leq 0.000$ ) and sexual esteem ( $r = -0.502, p \leq 0.000$ ). Sexual esteem was significantly and positively correlated with sexual esteem ( $r = 0.470, p \leq 0.000$ ). All relationships among the dependent variables were in the expected direction (e.g., esteem and distress scores were inversely correlated and the domain and global level measures of each construct were positively correlated).

Table 2

*Correlations for four sexual identity development statuses (SIDS)*

	1	2	3	4	5
1. SIDS	1.00				
2. Orientation	0.176 <sup>++</sup>				
3. Psych Distress	-0.126 <sup>++</sup>	-0.128 <sup>++</sup>			
4. Sexual Distress	-0.070 <sup>*</sup>	-0.118 <sup>+</sup>	0.486 <sup>++</sup>		
5. Self Esteem	0.021	0.101 <sup>+</sup>	-0.672 <sup>++</sup>	-0.386 <sup>++</sup>	
6. Sexual Esteem	0.099 <sup>+</sup>	0.103 <sup>+</sup>	-0.443 <sup>++</sup>	-0.502 <sup>++</sup>	0.470 <sup>++</sup>

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<sup>\*</sup> $p \leq 0.050$ , <sup>+</sup> $p \leq 0.005$  level, <sup>++</sup> $p \leq 0.000$

SIDS = sexual identity development status, Orientation = GLB or heterosexual

According to Marcia's (1966) theory, gender was not expected to influence the dependent variables of the present study; however, because a few older studies indicated a possibility of gender differences in global self-esteem, sex was examined in the present study as a preliminary analysis. A series of one-way analysis of variance tests (with Bonferonni correction of  $p = 0.0125$ ) were conducted to identify possible gender differences in relation to the constructs of interest (global self-esteem, sexual-esteem, psychological distress, and sexual distress). Specifically, these preliminary analyses were conducted in order to determine if both genders could be combined due to a lack of significant differences. Results indicated that women ( $M = 29.64$ ,  $SD = 6.62$ ) reported significantly higher levels of sexual-esteem than did men ( $M = 28.13$ ,  $SD = 7.11$ )  $F(1, 789) = 6.781$ ,  $p = 0.009$ . No significant gender differences were observed for global esteem  $F(1, 789) = 2.019$ ,  $p = 0.156$  (women:  $M = 30.56$ ,  $SD = 4.52$ ; men:  $M = 31.08$ ,  $SD = 3.99$ ), global distress  $F(1, 789) = 1.238$ ,  $p = 0.275$  (women:  $M = 104.16$ ,  $SD = 23.62$ ; men:  $M = 101.74$ ,  $SD = 22.03$ ), or sexual distress  $F(1, 789) = 0.816$ ,  $p = 0.367$  (women:  $M = 17.47$ ,  $SD = 7.06$ ; men:  $M = 18.01$ ,  $SD = 7.68$ ). Although a significant gender difference was observed for sexual esteem, because of the lack of significant difference on all of the other dependent variables and because separate analyses may have resulted in failing to detect the nuances related to identity development (Lewis, 2003) it was determined that analysis should be conducted with data being analyzed without regard to participants' self-reported gender.

Three hypotheses were tested using a 2 X 4, Sexual Orientation (GLB = 1, heterosexual = 2) X Sexual Identity Development Status (exploration = 1, commitment = 2, synthesis = 3, moratorium = 4), multivariate analysis of variance (MANOVA). The

first hypothesis was that college students would differ in global self-esteem, sexual-esteem, psychological distress, and sexual distress as a function of sexual identity development status. The second hypothesis was that college students would not differ in global self-esteem, sexual esteem, psychological distress, and sexual anxiety as a function of sexual orientation. The third hypothesis was that no interaction effect between sexual identity development and sexual orientation would be observed.

Tabachnick and Fidell (2001) posit that a significant ( $p < 0.001$ ) Box's  $M$  value indicates a lack of homogeneity of variance. Results of Box's  $M$  test indicated the assumption of homogeneity of variance was met in this investigation (Box's  $M = 94.303$ ,  $p = 0.025$ ). Results from the MANOVA revealed a significant multivariate main effect for sexual identity development status (SIDS) Wilks'  $\lambda = .907$ ,  $F(12, 2068.978) = 6.485$ ,  $p < 0.001$ , partial eta squared = .032. Power to detect the effect was 1.000. Although this finding supports the first hypothesis, the interaction accounts for only about 3% of the variance, suggesting other unobserved variables are likely important to consider in future research. A significant main effect was not observed for sexual orientation Wilks'  $\lambda = .996$ ,  $F(4, 780.000) = 0.742$ ,  $p = .563$ , partial eta squared = .004. This finding supports the second hypothesis. Similarly, no significant interaction effect was found for SIDS and sexual orientation; Wilks'  $\lambda = .987$ ,  $F(12, 2068.978) = 0.842$ ,  $p = 0.607$ , partial eta squared = .004 (see Table 3). This indicates that SIDS did not interact with sexual orientation to affect the dependent variables in this study which supports the third hypothesis.

Discriminant Function Analysis (DFA) was conducted to identify how the dependent variables differed as a function of SIDS. This is especially important in this

study because of the moderate correlations found between global and domain specific measures of distress and esteem (see Table 1). As recommended by Tabachnick and Fidell (2001), an a priori minimum cutoff for the structure value was set at 0.320 and was used to determine significance. The first discriminant function (way of grouping or splitting variables) was significant, Wilks'  $\lambda = 0.858$ ,  $p < 0.001$ ,  $df = 12$ , and explained 89.17% of the variance with a canonical correlation of 0.360. The structure matrix indicated that, in order of importance, sexual distress (structure value = 0.877), global psychological distress (structure value = 0.751), sexual-esteem (structure value = -0.640), and global self-esteem (structure value = -0.568), were all correlated with the discriminant function above the cutoff value. The second discriminant function was also significant, Wilks'  $\lambda = 0.982$ ,  $p = 0.030$ ,  $df = 6$ , and explained 10.70% of the variance with a canonical correlation of 0.133. In the second discriminant function, only sexual distress had a structure value greater than the cutoff (structure value = -0.361). It is important to note that the negative structure value for sexual distress in the second function does not indicate directionality due to the fact that the other variables within the function were nonsignificant. Instead, the significant absolute value indicates the importance of sexual distress as an explanative factor above and beyond the other variables. Specifically, together, the first and second functions indicate that sexual distress is the most important variable of those included in this analysis in understanding SIDS. The third discriminant function was not significant, Wilks'  $\lambda = 1.000$ ,  $p = 0.922$ ,  $df = 2$ , and explained 0.12% of the variance with a canonical correlation of 0.014 (see Table 3 for complete structure value information). This suggests that the change in the

dependent variables is significantly different between sexual identity development status groups and that all four dependent variables contributed to the group differences.

As can be observed in Table 4, those in the commitment status reported the highest levels of global esteem ( $M = 31.411$ ) and sexual esteem ( $M = 30.330$ ) and the lowest levels of sexual distress ( $M = 15.834$ ) and psychological distress ( $M = 100.284$ ) of any sexual identity development status. Conversely, those in the moratorium status reported the highest levels of sexual distress ( $M = 27.375$ ) and psychological distress ( $M = 128.625$ ) and the lowest levels of sexual-esteem ( $M = 21.174$ ) and global self-esteem ( $M = 26.875$ ). Those in the exploration and synthesis statuses fell between those in the moratorium status and synthesis status. Participants in the synthesis status reported higher levels of both sexual-esteem and global self-esteem and lower levels of both sexual distress and psychological distress than those in the exploration status. Together, these findings suggest that those in the commitment status experienced the lowest levels of distress and highest levels of esteem, followed by those in the synthesis status, exploration status, and moratorium status, respectively.

Table 3

*Structure matrix values for four sexual identity development statuses (SIDS)*

	<u>Discriminant Function</u>		
	1	2	3
Sexual Esteem	-0.699	0.035	0.562
Sexual Distress	0.877	-0.361	0.148
Global Esteem	-0.568	0.226	0.327
Global Distress	0.751	0.263	0.223

Because of the small number of participants in the moratorium status ( $n = 8$ ), a second set of analyses omitting those participants was conducted to determine whether the exclusion of those in the moratorium status altered findings.

As stated before, Tabachnick and Fidell (2001) suggest that a Box's  $M$   $p$ -value  $< 0.001$  is considered non-significant and homogeneity of variance can be assumed. In the second MANOVA, normality in the distribution of the dependent variables and homogeneity of variance was assumed (Box's  $M = 77.272$ ,  $p = 0.0135$ ). Means and standard deviations are reported in Table 4 and correlations are reported in Table 5. Results of the MANOVA again revealed a significant multivariate main effect for SIDS Wilks'  $\lambda = 0.922$ ,  $F(8, 1548.000) = 8.132$ ,  $p < 0.001$ , partial eta squared = 0.040. As in the first analysis, this finding supported the first hypothesis which stated that college students would differ in global self-esteem, sexual esteem, psychological distress, and sexual distress as a function of SIDS. A significant main effect was not observed for sexual orientation Wilks'  $\lambda = 0.847$ ,  $F(4, 774.000) = 0.347$ ,  $p = 0.850$ , partial eta squared = 0.002. This finding supported the second hypothesis which stated that college students would not differ in global self-esteem, sexual-esteem, psychological distress, and sexual distress as a function of sexual orientation. Similarly, no significant interaction effect was found for SIDS and sexual orientation Wilks'  $\lambda = 0.494$ ,  $F(4, 1548.00) = 0.927$ ,  $p = 0.521$ , partial eta squared = 0.005. This suggests that SIDS did not interact with sexual orientation to affect the dependent variables in this study. Results from this second MANOVA were almost identical to those observed in the original MANOVA analysis, which indicates that the exclusion of those in the moratorium status did not alter findings.

Table 4

*Means & standard deviations, three sexual identity development statuses (SIDS)*

	<u>Sexual Esteem</u>		<u>Sexual Distress</u>		<u>Global Esteem</u>		<u>Global Distress</u>	
	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)
Exploration (n = 99)	25.155	(7.313)	22.546	(7.648)	28.967	(4.372)	118.869	(24.396)
Commitment (n = 352)	30.330	(6.552)	15.834	(6.468)	31.411	(4.290)	100.284	(2.093)
Synthesis (n = 332)	29.596	(6.872)	17.765	(6.955)	30.506	(4.306)	101.913	(20.836)
Total (n = 783)	29.365	(6.975)	17.501	(7.148)	30.718	(4.374)	103.324	(23.093)

Table 5

*Correlations for three sexual identity development statuses (SIDS)*

	1	2	3	4	5
1. SIDS	1.00				
2. Orientation	0.198 <sup>++</sup>				
3. OQ-45	-0.160 <sup>++</sup>	-0.123 <sup>+</sup>			
4. Sex Distress	-0.108 <sup>+</sup>	-0.116 <sup>+</sup>	0.482 <sup>++</sup>		
5. Global Esteem	0.044 <sup>*</sup>	0.092 <sup>*</sup>	-0.670 <sup>++</sup>	-0.385 <sup>++</sup>	
6. Sex Esteem	0.133 <sup>++</sup>	0.098 <sup>*</sup>	-0.440 <sup>++</sup>	-0.500 <sup>++</sup>	0.462 <sup>++</sup>

<sup>\*</sup> p ≤ 0.050, <sup>+</sup> p ≤ 0.005 level, <sup>++</sup> p ≤ 0.000

As with the original MANOVA, to further identify how the dependent variables differed as a function of SIDS, DFA was conducted. Specifically, an a priori minimum cutoff value of 0.320 was again used to determine significance (Tabachnick & Fidell, 2001) and homogeneity of variance was assumed (Box's  $M = 33.088$ ,  $p = 0.0385$ ). The first discriminant function was significant, Wilks'  $\lambda = 0.8747$ ,  $p < 0.001$ ,  $df = 8$ , and explained 87.35% of the variance with a canonical correlation of 0.3311. The structure matrix indicated (in order of influence) sexual distress (structure value = 0.874), psychological distress (structure value = 0.762), sexual-esteem (structure value = -0.685), and global self-esteem (structure value = -0.501), all had structure values above the cutoff value (See Table 6). The second discriminant function was also significant, Wilks'  $\lambda = 0.983$ ,  $p = 0.0036$ ,  $df = 36$ , and explained 12.65% of the variance with a canonical correlation of 0.1323. In the second discriminant function, significance was only observed in SIDS for sexual distress (structure value = -0.377). The changes in the dependent variables were the same as previously observed in the first MANOVA, providing further evidence that the exclusion of the moratorium group did not alter findings in the present study.

Table 6

*Structure matrix values for three sexual identity development statuses*

	<u>Discriminant Function</u>	
	1	2
Sexual Esteem	-0.501	0.392
Sexual Distress	0.874	-0.377
Global Esteem	-0.685	-0.120
Global Distress	0.762	0.248

## **CHAPTER 5 – DISCUSSION**

This study sought to address gaps in the literature regarding sexual identity development status and sexual orientation. Specifically, this study sought to 1) determine whether college students differed in levels of global self-esteem, domain-specific self-esteem (sexual esteem), global psychological distress, and domain-specific psychological distress (sexual anxiety) as a function of sexual identity development status; 2) investigate whether college students differed in levels of global self-esteem, domain-specific self-esteem (sexual esteem), global psychological distress, and domain-specific psychological distress (sexual anxiety) as a function of sexual orientation; and 3) determine if an interaction existed between sexual identity development and sexual orientation in relation to global self-esteem, domain-specific self-esteem (sexual esteem), global psychological distress, and domain-specific psychological distress (sexual anxiety).

### **Summary of Major Findings**

The purpose of this study was to explore how sexual identity development status was related to psychological functioning. While college students differed significantly in levels of global and domain-specific distress and esteem based on sexual identity status, they did not differ significantly based on sexual orientation. Furthermore, no interaction effect was observed between sexual orientation and sexual identity development status in

relation to the constructs of interest. Because of the small number of participants who could be classified as being in the moratorium status, those in that group were dropped from a second set of analyses. Results from those analyses confirmed the findings of the first set of analyses. It was also observed that domain-specific and global measures of constructs were moderately correlated; however, it was determined that while the two levels of either distress or esteem were related, they were not the same. These findings have significant implications for theory, practice, and research.

### **Implications for Theory**

Marcia (1966) theorized that psychological distress and esteem fluctuated throughout the identity development process. Although Marcia specifically addressed ideological and occupational identity development, recent research (e.g., Worthington & Reynolds, 2009; Worthington et al., 2002) has extrapolated Marcia's (1966) Ego Identity Development theory to the realm of sexual identity development. Findings from the present study support that such extrapolation may be well-founded. Specifically, phenomena observed in this study are consistent with Marcia's position that psychological distress and esteem fluctuate across changes in identity development status. Furthermore, Arnett (1998; 2000) posited that identity development may continue throughout emerging adulthood (ages 18 to 25 years) stage of development. Because Arnett suggested that this stage of development continued considerably longer than what Erickson had initially proposed, the findings from this study are relevant in considering the merit of this proposition.

While results from the current study cannot address other domains of identity development, the results do suggest that sexual identity development continues

throughout the emerging adulthood stage. Specifically, participants' scores on the MoSEIC indicated that many individuals had yet to actualize a sexual identity and were still involved in exploring and committing to their sexual identities. Notably, few individuals were classified as being in the moratorium status of sexual identity development. This suggests that a more nuanced view of sexual identity development is needed, that considers how age may interact with the sexual identity development process. Specifically, the high degree of exploration associated with being in the moratorium status may be more typical of younger adolescents than of those in the emerging adulthood stage of development. Theorists will need to examine and clarify this previously unattended to facet in developmental theory.

Theory-driven research provides information about individual development. Similarly, the use of theory in clinical practice provides a basis for conceptualizing and understanding clients' presenting problems and developmental experiences. Because findings from the present study support the extrapolation of Marcia's model to the domain of sexual identity development, psychologists may begin to conceptualize all clients in terms of one universal model instead of relying on a multitude of models that are sexual orientation specific. This may be especially helpful since many of the sexual minority identity development models have gone untested and unsupported by empirical research (c.f., Savin-Williams, 2005). Even in the absence of strong empirical support for these models, psychologists have attempted to incorporate various sexual identity development models into practice. To date, no evidence suggests this attempt at affirmative therapy increases effectiveness in psychotherapy outcomes. It may therefore be preferable to expand Marcia's model to the realm of sexual identity development; so

long as research confirms this model is transferable to the domain of sexual identity development. Furthermore, unlike the various sexual orientation-specific models of sexual identity development, Marcia's model may offer a more parsimonious explanation of sexual identity development regardless of a client's sexual orientation. Furthermore, relying on one model allows practitioners to develop a set of intervention techniques that might be used with clients of various sexual orientations. While slight modifications may be needed (e.g., use of affirmative language, recognition of how sexual minority culture and race interact, etc.) to increase the effectiveness of such interventions, the underlying utility may not need to be vastly reconsidered when such interventions are grounded in Marcia's (1966) and Worthington et al.'s (2008) proposed identity development process. Simply put, Marcia's model provides a framework from which various domains of identity development, including sexual identity development, can be understood. Therefore, the extrapolation of Marcia's model to the domain of sexual identity development moves the field toward a unified theory of sexual identity development and has important implications for practice.

### **Implications for Practice**

As suggested by theory (Marcia, 1966), and confirmed in this study, normal development involves heightened experiences of global distress and decreased feelings of global esteem. Furthermore, Worthington et al.'s (2008) work expanded Marcia's theory to a new domain of identity development. Worthington et al.'s (2008) extrapolation of Marcia's model to the domain of sexual identity development suggested that global levels of esteem and distress should vary as a function of identity development status. Findings in this study support Worthington et al.'s (2008) position that sexual identity

development status is associated with domain-specific changes in distress and esteem. Furthermore, Oattes and Offman (2007) and Baumeister et al. (2003) have directed investigators to examine both global and domain-specific levels of constructs to promote deeper understanding of psychological constructs. Similar to findings reported in Oattes and Offman (2007), a moderate correlation was found between global and domain-specific levels of esteem in the present study. These findings have direct implications for practitioners.

Practitioners may better serve their clients by considering how domain-specific and global levels of distress and esteem may simultaneously be affected through the psychotherapy process. While Worthington et al.'s (2008) work provides a more precise conceptual framework from which sexual identity development may be understood, the observed relationships among global and domain-specific levels of distress and esteem suggest that practitioners may be able to reduce both types of distress while increasing both types of esteem simultaneously. Specifically, increased sexual anxiety and decreased sexual esteem likely contribute to overall distress and esteem. Practitioners may observe signs of sexual distress or low sexual-esteem that are related to sexual identity development status. Such signs may include questioning sexual values, feelings of discomfort discussing issues of sexuality, feelings of anxiety surrounding discussions of sexuality, or uncertainty in clients' understanding of themselves as sexual beings. Based on findings in this study, addressing such concerns in psychotherapy may improve clients' overall functioning while aiding in the sexual identity development process.

In general, therapists may be more likely to attend to sexual identity status when working with sexual minority clients than when working with heterosexual clients. In

some cases, client distress is related to the process of developing a sexual minority identity. However, heterosexual clients may have similar concerns regarding sexual values and understanding. It is the identity development process, and not clients' sexual orientations, which were found to be related to levels of distress and esteem in this study. Thus, therapists are encouraged to consider sexual identity development when working with any adolescents or young adults, regardless of sexual orientation, so as not to overlook this important process as it applies to heterosexual youth. Psychologists should focus on increasing clients' comfort with their own sexual values, behaviors, and exploration. Psychologists should never attempt to alter clients' sexual orientations (APA Task Force on Appropriate Therapeutic Responses to Sexual Orientation, 2009).

Examples of techniques that psychologists may find useful in psychotherapy with clients who are struggling with sexual distress or sexual-esteem include working with clients to clarify values; helping clients develop increased comfort discussing issues of sexuality through normalization of the sexual identity development process; exploring with clients how sexuality fits into their broader understanding of themselves; and explaining to clients how domain-specific distress and esteem may relate to overall functioning. These approaches may be useful in addressing psychic discomfort and improving overall functioning. This may be especially important when working with clients who present with concerns related to sexuality or sexual intimacy. Clinicians are reminded that moving toward an achieved sexual identity status can decrease distress while simultaneously increasing esteem among their clients.

As suggested by Roberts, Austin, Corliss, Vandermorris, and Koenen (2010) higher levels of observed psychological distress in GLB youth and young adults may be

related to chronic distress related to a prolonged sexual identity development process. Such distress may be caused by ongoing difficulties with assuming a minority label and with other related experiences, such as trauma and victimization of sexual minorities. Clinicians can work to minimize the negative effects of developing a stigmatized identity in order to help clients improve their overall psychological functioning. When working with GLB youth and young adults, clinicians should consider whether their clients are distressed in relation to the sexual identity development process, and be sensitive to the possibility that this could be a better explanation for previously observed differences in mental health between groups of people who claim different sexual orientations (i.e., rather than the explanation that distress is inherent in persons who are members of sexual minority groups). Such information could be useful for sexual identity development among clients of all sexual orientations.

### **Implications for Research and Future Directions**

Mixed findings regarding mental health differences between heterosexual and GLB individuals have clouded the literature. Savin-Williams (2005) suggested that the sexual identity development process, rather than sexual orientation itself, may be the underlying cause of these mixed findings. The present study, in contrast to studies of the past, investigated this possibility in a *non-clinical* sample. Findings indicated that differences were not related to sexual orientation, or to an interaction of sexual orientation and sexual identity development status. The differences were related to sexual identity status alone. Further research is needed to clarify findings by examining whether sexual identity development occurs along the same chronological time line for GLB and heterosexual individuals. Specifically, the discrepancy in published findings

may be a result of GLB youth moving more slowly than heterosexual youth through the sexual identity development process (or delaying the sexual identity development process). Findings from the present study also highlight the need for future research to consider sexual identity development status in relation to a variety of psychological constructs.

Some scholars have noted that sexual identity development may interact with racial identity development (e.g., Adams & Phillips, 2006; Potoczniak, Crosbie-Burnett, & Saltzburg, 2009). For example, Moradi, DeBlaere, and Huang (2010a) suggested that “LGB people of color may be more resilient in the face of [heterosexual] stigma” than white sexual minority people (p. 326) because they may have previously developed coping skills to manage race-based stigma. Such a coping skills set may be transferable to mitigating the effects of heterosexist stigma. However, other research (Moradi et al., 2010b) reported “findings suggested similarities between LGB people of color and White LGB individuals in levels of perceived heterosexist stigma, internalized homophobia, and comfort with disclosure of sexual orientation” (p. 397). This same (Moradi et al., 2010b) study did report differences in levels of “outness” based on race. Other scholars (Dube & Savin-Williams, 1999; Rosario, Schrimshaw, Hunter, and Braun, 2006) reportedly found no difference in age of developmental milestones based on race in an urban sample of White, Black, and Latino/a youth. Because it is unclear exactly how race may interact with sexual orientation, and because it has been suggested that race may play a role in sexual identity development, further research is needed to replicate the findings presented in this study with a broader range of participants. Specifically, replications with various racial groups are needed to confirm results of the current investigation. Investigation into

Moradi et al.'s (2010) suggestion that learning methods to manage race-based stigma are able to be extrapolated to manage heterosexist stigma. Research is also needed to replicate the findings of this study with a broader range of participant ages, including younger adolescents. The results of this study suggest that relatively few 18 to 25-year-olds can be classified as being in the moratorium status.

This suggests that, unlike occupational and ideological identity development, people may experience moratorium in sexual identity development at a time outside of the age range originally proposed by theory (e.g., Erickson, 1968) or that individuals may spend comparatively little time in the moratorium status compared to other identity development statuses. Erickson (1968) suggested that identity development typically occurs between the ages of 12 and 18 years. Although Marcia (1966) operationalized how identity development progresses, he did not provide specific information regarding when development would take place. Arnett (2000), recognizing society's role in identity development, extended Erickson's suggested age range from 12 to 25-years-old. Results suggest that further clarification may be required in more fully outlining identity development theory. Specifically, because so few participants were classified as being in the moratorium status, moratorium status may be more common in early adolescence (i.e., younger than 18-years-old) than in late adolescence or emerging adulthood stages. Alternatively, moratorium as a status may not be a common identity development status in the process of sexual identity development. It should also be noted that because college students are frequently required to take courses that address sexuality, results may not generalize to those individuals who do not attend institutions of higher education. That is, college students who have studied sexuality may have a greater awareness of

their own sexual identity and therefore may be more likely to be in an identity development status other than the moratorium status. With so few individuals being classified in the moratorium status, further research is needed to determine how the phenomenon associated with moratorium status is related to sexual identity development.

Researchers and practitioners alike are called to attend to identity development statuses. Because the findings reported in this study indicate that an individual's identity development status is likely more important than his or her sexual orientation, attention should continue to emphasize the importance and role of sexual identity development in the lives of young adults. Investigators and theorists may need to better clarify how sexual identity development status is linked to other psychological processes and relationship formation as a developmentally appropriate task (Erickson, 1968). Practitioners may improve therapeutic outcomes by similarly attending to identity development tasks as an intervention strategy to alleviate psychological distress and improve self-esteem. Such a seemingly indirect method of approaching therapy may require psychoeducation to assist clients in understanding the link between their sense of self and their emotional experiences and possible symptoms.

The lack of significant differences between those who identified as GLB versus heterosexual supports the position that similarities among college students, regardless of sexual orientation, may provide important information about development in general. Researchers may, when carefully considered and cautiously completed, be able to broaden the generalizability of their findings to include college students with less concern for differences among those of various sexual orientations. Practitioners may also alter clinical practices by placing less emphasis on sexual orientation in determining

interventions, especially when working with clients who have actualized a sexual identity. This is not to say that practitioners or researchers should dismiss differences in presenting problems or societal pressures, but, instead, psychologists may find value in focusing on shared experiences than has previously been asserted in the literature.

### **Limitations**

Like all studies, the balance between external validity and internal validity must be considered. Although college student participants in this study were in the same age range as others in the emerging adult stage of development (Arnett, 2000), there may be important differences between college students and non-college students. For example, college students tend to live in a different environment that encourages self-exploration; often with increased autonomy and a more diverse peer group than that in which they were raised. This means that simply being in the emerging adult stage does not mean that results will generalize to non-college students. Similarly, because a limited number of participants in this study (11.6%) were members of racial or ethnic minority groups, interactions between racial identity and sexual identity development could not be tested in the present study. Future research is needed to learn more about the interaction of sexual and racial identity development.

Another limitation of this study is that each construct was only measured with one instrument. Previous research shows that the way in which constructs are measured may affect results. For example, Shepler (2008) found that, using the same data set, when participants were categorized by sexual orientation based on Kinsey-type responses versus self-report, an effect size difference of approximately 0.15 was observed. This previous finding suggests that future research should seek to address consistency of these

results using a variety of methods to classify participants into various sexual orientation categories in order to confirm the results reported in this study.

Another major limitation of this study was that approximately 22% of the data used to assess global psychological distress had to be imputed due to a problem with the electronic survey. While imputation is the preferred method of dealing with missing data, the fact that such a large proportion of the data was not obtained directly by participants limits the validity of the reported results. This limitation, while important, may be offset somewhat by previous research findings as they relate to the results reported in this study. Specifically, the inverse relationship between self-esteem and psychological distress has been well documented and is consistent with findings reported by this study. Furthermore, the relationship between sexual distress and global psychological distress was consistent with previous research. Nonetheless, future research relying on non-imputed data is needed to address this limitation and confirm the results of this exploratory investigation.

This study was also limited in that the analysis does not allow for causality to be inferred. Although differences between those in various sexual identity development status groups can be observed, differences may be due to interaction effects with variables that were not included in the current study. A final limitation in this study is the moderate correlations observed between psychological distress and sexual distress and global self-esteem and sexual-esteem. These correlations may reduce the sensitivity of the test statistic. These observed correlations, however, are consistent with previous research and theory. Furthermore, this study answers previous researchers' (Baumeister et al., 2003; Oattes & Offman, 2007) calls that have indicated a need for domain-specific

constructs to be simultaneously measured alongside global level constructs to provide more nuanced understandings of findings. While certain limitations have been identified and discussed, the proposed study also contains several strengths.

### **Strengths**

Few studies examining sexual identity have derived findings from a sample as large as the sample in this study. The sample size allows for increased confidence in the results. Furthermore, unlike studies that recruit GLB individuals only through GLB community centers and online communities, those who participated in this study are part of a larger, institutional community on one of two campuses. This provides considerably more variability in the GLB sample than is typically observed in sexual orientation research. By building on developmental theory, the findings from this study can also be considered in a broader, theoretical context; thereby adding to the utility of the findings while providing support for popular theory and previous research. The use of appropriate statistical methods decreased the likelihood of Type I error in the research design. Together, these factors suggest that the findings contribute in important ways to the existing literature on sexual identity development and sexual orientation.

Previous authors (e.g., Moradi et al., 2010a) have called for separate lines of research on gender identity and sexual orientation. Unlike previous research that has failed to clearly differentiate between gender identity and sexual orientation, this study focused specifically on sexual orientation. Although the removal of self-identified transgender participants limits the generalizability of the results to the broader transgender population, the exclusion of data provided by people who identify as

transgender provided a more accurate and less confounded examination of sexual orientation and sexual identity development.

This study focused on both positive and negative aspects of identity development. While some previous research has examined positive aspects of developing a sexual orientation minority identity (e.g., Riggle et al., 2008), the bulk of sexual identity development research has tended to focus on negative psychological effects associated with identity development (see Savin-Williams, 2005 for review). This study expanded this focus by also examining how esteem was associated with the sexual identity development process. Such an approach acknowledges struggles associated with the sexual identity development process while also attending to the positive aspects associated with developing an achieved sexual identity. Furthermore, unlike previous research that has examined sexual identity development for only GLB or heterosexual individuals, results from this study provide a unified understanding of how sexual identity development related changes in esteem and distress are similar for individuals regardless of sexual orientation. This provides researchers, theorists, and practitioners with a unified foundation from which to understand and consider sexual identity development in a broader context that is not mediated by sexual orientation-specific factors.

A final strength of this study that is important to consider is that both domain-specific and global measures of psychological distress and esteem were included. Findings allow for increased comprehension of how subordinate levels of a construct, specifically, sexual distress and sexual esteem, relate to superordinate levels of a construct, specifically, global psychological distress and global self-esteem. This more

complex view provided support for the relationship between sexual identity development and overall identity development processes and also furthered understanding of how sexual identity development may interact with global identity development processes and psychological functioning.

### **Conclusions**

Based on findings reported in this study, psychologists should recognize that changes in psychological distress and self-esteem can be considered normal features of identity development. Consistent with previous theory (Marcia, 1966) and research (Worthington et al., 2008), it was found that those with an achieved identity status function better than those in other identity development statuses. Psychologists should therefore recognize that normal sexual identity development may include changes in esteem and distress. Psychologists should continue to work with clients to facilitate identity development in order to decrease distress. Findings also clarify the relationship between sexual orientation and psychological functioning. Specifically, as suggested by Savin-Williams (2005), sexual orientation seems unrelated to psychological functioning. Researchers should therefore control for sexual identity development status in future studies in order to better explain how sexual identity development, regardless of sexual orientation, relates to other psychological constructs and types of functioning. Finally, the findings from this study support the propositions of Erickson (1968) and Arnett (2000) that the identity development process lasts throughout early adulthood. Specifically the present study supports this process as it relates to sexual identity development. This too has implications for practitioners. Practitioners may benefit by recognizing that the sexual identity development process does not end after a sexual

orientation status is assumed by an individual. Psychologists may also increase effectiveness in their work with clients by exploring how sexual identity development concerns relate to clients' problems in other areas (e.g., romantic and family relationships, anxiety, etc.). Overall, findings from this study should be incorporated into affirmative therapy (Bieschke, Perez, & DeBord, 2007) and psychologists may improve both research and practice by considering sexual identity development status and sexual orientation both separately and simultaneously.

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## Appendix A – Recruitment E-mail

Dear Student,

You are invited to participate in a dissertation study of sexual orientation and identity development. If you choose to participate in this study you will be asked to respond to questions about your self-esteem, sexual esteem, mental health, sex orientation, and demographic information (e.g., race/ethnicity, age, etc.). While some information may be considered sensitive, your honest response to all questions is requested. Your participation in this study is expected to take about 20 minutes. Four participants will be randomly selected to receive a \$20 gift cards to Amazon.com. The survey will be open from DATE to DATE.

The online survey can be found at: LINK.

By completing this survey, you will help to further understanding of sexual identity development, which will allow counselors to be better informed when working with students of all sexual orientations.

Sincerely,

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## Appendix B – Informed Consent

This study is titled *Sexual Identity Development Status and College Student Mental Health* and is meant to increase knowledge of how college students' understanding of their sexuality is related to self-esteem, sexual esteem, and mental health. In order to participate you must be at least 18 years old and cannot be older than 25 years old. Those of any sexual orientation are encouraged to participate. Also, because this study does not focus on transgender issues, those who identify as transgender are not eligible to participate.

If you choose to participate in this study, you will be asked to complete an online survey honestly and completely; the survey will take about 20 minutes to complete.

After participating you will be eligible to receive one of four \$20 gift cards via random selection from the participant pool. If you choose to enter the raffle you will be asked to e-mail the researcher at an e-mail address provided after you complete the survey. Since no identifying information will be collected about you during the survey, only those who express interest in entering the giveaway via e-mail will be entered into the drawing. If you are enrolled in a BSU CPSY course you may receive partial course credit for participation in this study. Directions regarding gift cards and course credit are provided on the debriefing page of this study.

You will not be asked for your name or any other information that would make it possible to identify your answers as belonging to you (i.e., your participation in this study is anonymous). There is a small possibility that answering some of the questions on the survey may evoke some feelings of anxiety. If this should occur, you are encouraged to visit your university counseling center. Counseling services can be obtained from Ball State University's counseling center (765-285-1376) or Indiana University-Bloomington's counseling center (812-855-5711) if you develop uncomfortable feelings during your participation in this research project. You will be responsible for the costs of any care that is provided. It is understood that in the unlikely event that treatment is necessary as a result of your participation in this research project that Ball State University, its agents and employees will assume whatever responsibility is required by law. For questions about your rights as a research participant, please contact Research Compliance, Sponsored Programs Office, Ball State University, Muncie, IN 47306, (765) 285-5070, [irb@bsu.edu](mailto:irb@bsu.edu).

Your participation in this study is completely voluntary and you are free to withdraw from the study at any time for any reason without penalty or prejudice from the investigator. Please feel free to contact the investigator with any questions you may have regarding this study.

To participate in the study, click "I agree" below. By clicking on "I agree", you are agreeing to participate in this research study and agreeing that the study has been explained to you and your questions have been answered to your satisfaction. If you have

any additional questions at any time before, during, or after the study you can e-mail the researcher or his doctoral chair.

Thank you for your time and participation!

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## Appendix C – Debriefing Information

Shown on the last screen after each participant has submitted responses to the survey:

The study you just participated in was designed to assess sexual identity development status, self-esteem, sexual esteem, psychological distress and sexual anxiety. Past research has indicated that levels of self-esteem, sexual esteem, psychological distress, and sexual anxiety may be related to the sexual identity development process. The goal of the study was to determine how self-esteem, sexual esteem, psychological distress, and sexual anxiety differ based on sexual identity development status.

If you would like to read more about this topic or this study please e-mail the primary investigator for a reference list.

**AMAZON CARDS**

Four gift cards to Amazon.com, valued at \$20 each, will be given away by randomly selecting individuals from the participant pool. If you wish to be included in this random selection pool you will need to e-mail your name, e-mail address, and mailing address to [dkshepler@bsu.edu](mailto:dkshepler@bsu.edu). You are not required to participate in the give-away if you do not wish to do so.

**COURSE CREDIT**

If you are a student in a CPSY class at Ball State University you may also receive one hour of research credit for having completed the survey. Because no identifying information was collected during the survey you must e-mail [dkshepler@bsu.edu](mailto:dkshepler@bsu.edu) with your name and the instructor to whom you would like sent notification of participation. If you do not e-mail the researcher you will not receive credit for any CPSY class by completing this survey.

**COUNSELING SERVICES**

If you experience distress as a result of participating in this study please contact your university counseling center.

Ball State University counseling services: 765-285-1736

Indiana University counseling and psychological services: 812-855-5711

**THANK YOU FOR YOUR PARTICIPATION!**

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