Social Identity and Wellness of People Who Have Acquired Physical Disability: What is the Role of Social Support?

Katherine S. Ong
DePaul University, kong2@depaul.edu

Follow this and additional works at: https://via.library.depaul.edu/csh_etd

Recommended Citation

This Dissertation is brought to you for free and open access by the College of Science and Health at Via Sapientiae. It has been accepted for inclusion in College of Science and Health Theses and Dissertations by an authorized administrator of Via Sapientiae. For more information, please contact digitalservices@depaul.edu.
Social Identity and Wellness of People Who Have Acquired Physical Disability:

What is the Role of Social Support?

A Dissertation
Presented in
Partial Fulfillment of the
Requirements for the Degree of
Doctor of Philosophy

By
Katherine S. Ong
August, 2014

Department of Psychology
College of Science and Health
DePaul University
Chicago, IL
Abstract

The degree to which individual members of social minority groups identify with their stigmatized ingroup vary—some closely identify whereas others distance themselves from it as a byproduct of stigmatization. Research findings are mixed in regard to whether group identity influences well-being. One reason is that the relationship may be obscured by other factors. This study sought to clarify the mechanism by which group minority identity relates to health through social support. To assess the linkages among the three variables, individuals with acquired physical disabilities were surveyed. The study of disability identity is of import because, first, it may predict health outcomes of individuals with disability and second, there is dire need for psychological research on individuals who have disabilities. Moreover, published research on the quantitative measurement of disability identity is non-existent. Theoretical assumptions made here were largely drawn from racial identity research. It was predicted that the relationship between disability identity and health would vary depending on the level of social support received. Seventy-nine individuals with acquired physical disability participated by completing a self-report survey on disability identity, social support, and health. Predictions were partially supported in that a moderation effect on health was found only for one dimension of disability identity and for disability-specific social support. Individuals who received high levels of support from others who have a disability and had positive regard towards the disability community tended to have healthier social functioning. No relationship was found between disability identity and social
functioning for those with low social support. Findings have implications for practice, and may suggest that individuals function healthiest when the source of and desire for support are in alignment. The current study also extends theory on disability identity. The internal consistency of the disability identity scales used here were similar to the racial identity scales from which they were adapted, suggesting that they may be validly used for the population of those with acquired disabilities. In addition, findings reiterate the importance of social support specificity when evaluating its effects on health outcomes.
THESIS COMMITTEE

Midge Wilson, Ph.D.

Chairperson

Christopher Keys, Ph.D.
Douglas Cellar, Ph.D.
Maria J. Ferrera, Ph.D.
Noam Ostrander, Ph.D.
ACKNOWLEDGMENTS

I would like to express my sincere gratitude to my committee chair, Dr. Midge Wilson, for her support through this and other projects. Thank you, Midge, for your encouragement and helpful advice through the many iterations of this dissertation, and for adopting me as a student years ago when I needed the guidance of an advisor the most. To other members of my committee—Dr. Christopher Keys, Dr. Douglas Cellar, Dr. Maria Ferrera, and Dr. Noam Ostrander—thank you for your insightful feedback. My deepest appreciation also goes to the College of Science and Health for twice awarding me the Graduate Research Fund. The grants were critical to finishing this project in a timely manner.
BIOGRAPHY

The author is a first-generation immigrant to the United States and was born in Manila, Philippines on February 8, 1983. She graduated from Grand Blanc High School in 2002 and received a Bachelor of Science degree in Psychology from Michigan State University in 2006. She earned a Master of Arts degree in Clinical Psychology from Ball State University in 2008. While working on her doctoral degree at DePaul University, she held the position of Manager of Program Development, Evaluation, and Research at a rehabilitation hospital in Chicago, where she managed evaluation of programs for people with disabilities who live in under-resourced communities.
# TABLE OF CONTENTS

Thesis Committee ................................................................. iv
Biography ................................................................................ v
List of Tables ........................................................................ ix
List of Figures .......................................................................... x

## INTRODUCTION

Stigma towards Minority Groups ........................................ 5
   Stigma towards African Americans ................................. 6
   Stigma towards Other Minority Groups ......................... 8
   Stigma towards People with Disabilities ....................... 9

Group Identity ................................................................. 10
   Black/African American Identity ................................. 11
   Other Minority Identity ............................................. 17
   Disability Identity ................................................... 19

Group Identity and Health ........................................... 28

Group Norms and Health .............................................. 31

Social Support and Health ........................................... 32

## RATIONALE

................................................................. 42

## RESEARCH QUESTIONS

................................................................. 45

## METHOD

................................................................. 46

Materials ................................................................. 46
   Disability Identity ............................................. 46
   Social Support ............................................... 47
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>48</td>
</tr>
<tr>
<td>Secondary Complications to Disability</td>
<td>49</td>
</tr>
<tr>
<td>Mental Health</td>
<td>49</td>
</tr>
<tr>
<td>Procedures</td>
<td>50</td>
</tr>
<tr>
<td>RESULTS</td>
<td>51</td>
</tr>
<tr>
<td>Participant Characteristics</td>
<td>51</td>
</tr>
<tr>
<td>Scale Properties and Internal Consistency</td>
<td>53</td>
</tr>
<tr>
<td>Preliminary Analyses</td>
<td>56</td>
</tr>
<tr>
<td>Social Support as a Moderator</td>
<td>58</td>
</tr>
<tr>
<td>DISCUSSION</td>
<td>61</td>
</tr>
<tr>
<td>Implications</td>
<td>67</td>
</tr>
<tr>
<td>Limitations</td>
<td>70</td>
</tr>
<tr>
<td>Future Directions</td>
<td>71</td>
</tr>
<tr>
<td>References</td>
<td>75</td>
</tr>
<tr>
<td>Appendix A. Disability Identity Measure</td>
<td>87</td>
</tr>
<tr>
<td>Appendix B. Social Support Measures</td>
<td>88</td>
</tr>
<tr>
<td>Appendix C. Health Indicators</td>
<td>90</td>
</tr>
<tr>
<td>Appendix D. Participant Demographics and Other Characteristics</td>
<td>93</td>
</tr>
<tr>
<td>Appendix E. Information Sheet</td>
<td>95</td>
</tr>
<tr>
<td>Appendix F. Debriefing Sheet</td>
<td>96</td>
</tr>
</tbody>
</table>
LIST OF TABLES

Table 1. Means, standard deviations, intercorrelations among study variables................................................................. 54

Table 2. Exploratory factor analysis for general social support (MOS-SSS)................................................................. 57

Table 3. Regression predicting general health................................. 58

Table 4. Individuals function healthier when source of, provision of, and desire for support align........................................ 68
LIST OF FIGURES

Figure 1. The proposed theoretical model illustrating the role of social support in the relationship between disability identity and health........ 4

Figure 2. Private regard and social functioning significantly positively related only for people receiving high levels of informational social support from others who have a disability......................... 60
Social Identity and Wellness of People Who Have Acquired Physical Disability: What is the Role of Social Support?

Humanistic psychologists have long argued that to belong, to be respected, and to be unconditionally loved are innate human needs (Maslow, A.H., 1943; Baumeister & Leary, 1995). People are social beings and, as such, emotionally require being accepted by members of a group, whatever that group may be. This desire to belong and be valued holds for everyone in society, including those who are stigmatized, and perhaps especially for those with a visible stigma as they must often struggle harder to be accepted because of their perceived difference. Women, racial/ethnic minorities, gays and lesbians, and people with disabilities are all examples of marginalized groups who at one time or another suffered or continue to suffer from being outcasts by the larger (White male) dominant class. This study concerns the consequences to self-identity by being associated with a devalued group. One way to respond to societal devaluation as a result of stigmatization is to distance oneself from other similarly stigmatized group members and, therefore, deny one’s minority identity. Alternatively, pride with one’s group—despite social devaluation—may cause a desire to be part of the larger collective of like others. In many societies across different cultures, individuals who have a disability have historically been amongst the most devalued. As such, some individuals who have a disability distance themselves from the disability community by hiding their impairment when possible or by believing the negative stereotypes held by the larger society toward the group. However, a potential negative consequence of isolation from one’s minority
group is the opportunity cost in critical support from the group, support that might lead to better health. This research is focused on the devaluation of individuals with acquired disability and its effects on the target’s self-identity and health. It is proposed that people with acquired disability who respond by separating from the disability community will have poorer health because they fail to benefit from the resources that may be otherwise provided them by members of the disability group to which they belong.

There are several reasons why belonging to a group can improve a sense of well-being. First, being in a group itself, whether stigmatized or envied, can facilitate the development of affiliative relationships, a phenomenon common among high school students who frequently form cliques according to interests, popularity, and demographics. For example, African American students in predominantly White schools tend to separate from non-White students in school cafeterias and other informal meeting places. Ethnic minorities and recent immigrants also tend to selectively move into certain neighborhoods, which may or may not be further divided by socioeconomic status. Whether such segregating is self- or other-imposed, resulting relationships from being in a group of similar others can help make individuals feel more secure. Secondly, the affiliative relationships resulting from group membership can provide much needed social support, especially when one happens to be stigmatized by others in some way. Evaluative attitudes for a previously unknown individual are particularly influenced by the views held towards that individual’s larger group membership. That is, if someone new is seen by others as a potential member of their own
group, then that individual will be treated positively, but if that someone is perceived as belonging to an outgroup, then the individual automatically will be treated less favorably (Dovidio & Gaertner, 2004). To further illustrate, the public bashing of gays (Willis, 2004), the historical social exclusion through institutionalization of the mentally ill, and the persistent segregating by race in our society are all examples of outgroups being marginalized. But the support provided by like others in these stigmatized groups has provided much respite from the marginalizing being done by others.

Despite stigmatization then, group members may find solace through social interactions with similar others. Such support is seen among individuals born with a physical disability who are encouraged early on to establish links with similar others who identify as having a disability, connections now made more possible by the existence of Internet communities. They may grow up stigmatized, but not without belongingness. In contrast, those with an acquired disability may first have to go through a process of accepting their new identity. This makes them different among the population of PWDs. The current research seeks to explain the mechanisms by which group membership for those with an acquired disability (i.e., not a congenital condition) can facilitate their wellness by improved social interaction and ultimately access to community resources (see Figure 1 for a representation of the proposed model). In short, to the extent that people with disabilities identify with their disability status and affiliate with others in the disability community, they will fare better than those who do not.
Figure 1. The proposed theoretical model illustrating the role of social support in the relationship between disability identity and health.

In the current research, it is therefore predicted that people who are positively identified with their acquired-disabled status will be psychologically and even physically healthier. Highly identified minorities in general are more likely to socialize with similar others within their own stigmatized ingroup, in this case, others in the disability community who have knowledge about the disability community support system. Once people with disabilities accept and develop social relationships with other individuals with disabilities, there is a greater chance that they will be exposed to information on how to best the system on disability resources. The disabled individual thus becomes better informed about available community services for people with disabilities such as wheelchair clinics, access to transportation, vocational services, and rehabilitation facilities. The support gained from similar others facilitates healthier psychological functioning. Thus, disability identity is a critical component to wellness because it brings people with disabilities closer to the relevant support systems. However,
it is recognized that there is a fundamental difference between racial minorities and people with acquired disabilities in that racial minorities’ identification with their minority self-concept develops over a lifetime, beginning in childhood. On the other hand, people who acquire a disability may not face this challenge of accepting a new stigmatized identity until after acquisition of injury, which for some may occur well into adulthood. However, qualitative research on disability identity development, which is discussed in later sections, suggests that the developmental trajectory of disability minority identity is similar to that of racial identity development. Thus, the analogy made here has validity.

In the next section, scholarly work will be reviewed indicating that individuals with disabilities are indeed stigmatized subjects to damaging cultural stereotypes. Second to be discussed is that many people with disabilities, especially those with acquired ones, distance themselves from their disabled status due to internalized prejudice. Evidence will be presented indicating that people with disabilities have varying degrees of identification in regard to their disability, from shame to pride in being a member of an activist community. To further explore this idea, the far more researched racial and minority identity models will be reviewed, and then compared to the emerging body of work on disability identity. This will help to highlight parallels among racial and minority identity transformation and disability identity development.

**Stigma towards Minority Groups**

A convincing body of research supports the notion that stigmatization has harmful consequences. In part, these negative effects are due to negative
stereotypes about particular stigmatized groups. In addition, it can be devastating when stigmatized individuals themselves accept their own devaluing, a process known as internalized prejudice. This negative self-worth has been observed among African Americans, gays and lesbians, the elderly, and others. We turn now to the group most studied around issues of stigmatization.

**Stigma towards African Americans.** Forced into slavery in a strange land, the history of African Americans in the United States has been that of exploitation, subjugation, and marginalization. To this day, the resulting effects can be observed in the structural stratification of society in which African Americans have consistently had, in comparison to Whites, high rates of high school dropout (U.S. Department of Education, 2011), unemployment (U.S. Department of Labor, 2011) and poverty (U.S. Census Bureau, 2012). African American men make up a disproportionate number of incarcerations (The Pew Center on the States, 2008). Historical marginalization of Blacks/African Americans has resulted in consequential negative attributes towards individual members of the group.

However, even after desegregation and despite the relatively more positive public attitudes and self-perceptions toward African Americans today, the cloud of stigma and stereotypes held by non-Blacks about Black Americans have lingered and drive much of intergroup relationships among non-Blacks and Black Americans today. What scholars term as implicit or automatic prejudice and stereotypes characterize much of current-day intergroup interactions (Pearson, Dovidio, & Gaertner, 2009; Devine, 1989). Aversive racism theorists support the
assertion that racial prejudice today has implicit manifestations. Dovidio and Gaertner (2004) suggest that people tend to automatically categorize others into ingroups and outgroups. However, when there is negative characterization attached to certain groups, then prejudices arise towards individual members of the group. Because the process of categorization is automatic, any existent biases are said to be uncontrollable and thus implicit. For example, Gaertner and Dovidio (2004; 2000) have consistently found contextual effects on discrimination in that when situations are ambiguous, that is, when discriminatory behavior can be attributed to something other than race, discrimination against Blacks are most likely to occur. When asked to rate qualifications of Black and White job candidates, the authors found that no discriminatory biases occurred when the applicants were either highly or poorly qualified, but it did so when the applicants were moderately qualified. Moderately qualified Black candidates were rated lower on qualification than a White candidate with identical credentials. The mediocrity of the Black candidate’s application served as justification to rationalize bias on non-racial grounds.

Research on implicit prejudice and discrimination indicates that views toward African Americans are indeed negative. For example, Devine (1989) assessed the content of cultural stereotypes towards Blacks and found that the most frequently mentioned thoughts toward Blacks were that the group was stereotyped to be poor, aggressive/tough, criminal, of low intelligence, uneducated, and lazy, to name a few. In addition, there were no differences in the content of low-prejudiced and high-prejudiced individuals’ stereotypes,
suggesting that these stereotypes stem from societal messages rather than personally-learned stereotypes. Also, consistent with Devine’s findings, Payne (2001) convincingly found that Black men are stereotyped to have aggressive tendencies. Based on the premise that many stereotypes are automatic, Payne predicted that because Black men are prejudged to be aggressive, individuals would be quicker at identifying object cues associated with aggression when primed with faces of Black males. Indeed, this was what occurred. When non-Black subjects were made to make quick decisions and prevented the opportunity to control their responses, they were faster at identifying a gun after being primed with a Black face than when primed with a White face. Payne’s findings support the lingering negative stereotypes toward African Americans. These negative stereotypes are salient in and maintained by portrayals of African Americans in the mainstream media (Fujioka, 1999).

**Stigma towards Other Minority Groups.** Depending on sociohistorical contexts, other minority groups in American society have also been targeted for stereotyping, prejudice, and stigmatization. As an example, since the attacks on September 11, 2001, which were attributed to religious fundamentalism, many Arabs and Muslims were targeted as terrorist outsiders (Unkelback, Forgas, & Denson, 2008). Until fairly recently attitudes towards sexual minorities were highly unfavorable, and they, too, were stereotyped and the target of hates crimes. Lesbian women are typically portrayed as hypersexualized or masculinized, and gay men as feminized (Kite & Deaux, 1987; Lauderback & Whitley, 1996). While many religious fundamentalists continue to see gays and lesbians as a stigmatized
group that deserve derogation (Whitley, 2009), as a group gays and lesbians have made great strides in becoming de-stigmatized.

**Stigma towards People with Disabilities.** People with disabilities are also members of a group that has been subjected to devaluation and stigmatization. Disablement can occur to anyone, especially as they age, yet disabled individuals have historically experienced much societal persecution. Braddock and Parish’s (2001) review of the history of disability indicate that during the Middle Ages people with disabilities were thought to have been demonized, with the emergence of institutionalization in which to warehouse them were often thought of as a financial drain. When American colonization began, according to the authors, disabled individuals were unwelcomed by townspeople to avoid responsibility for their care. In the 19th century, people with disabilities were also objectified as freaks in circuses. Disabled groups have been treated as though they were deficient and separated from the rest of society through institutionalization. In the 20th century, some advocated containment of people with disabilities through eugenics. Through deinstitutionalization, political activism, and self-advocacy, disabled individuals have slowly gained rights and challenged stereotypes. Nevertheless, psychological research indicates that social stigma lingers. For example, Esmail (2010) examined narratives of people with physical disabilities and explored their views on sexuality and disability. Respondents indicated that the general public views them as asexual and many have reservations about engaging in physical intimacy with them. Respondents believed that one reason is that people’s idea of sex is focused on physical
performance, which is inconsistent with others’ constructed ideas that people with disabilities are incapable. Weinberg’s (1976) examination of the content of stereotypes toward people with disabilities suggests that the stigmatized group is viewed as less socially skilled and dependent.

The nature of stereotypes toward minority groups is important to note because they have strong influence on the extent to which stigmatized groups are willing to identify with their own group. Distancing from one’s group as a consequential effect of stigma towards targeted groups is the premise behind identity models. It is proposed that because people with disabilities are also subjected to much negative stereotype, some disabled individuals would consequently also dissociate from the disability group, by denial of one’s disability, to passing as non-disabled, to rejecting a disabled identity from the self-concept. Disability identity is discussed more fully in later sections. Such disidentification would be particularly likely among those whose disabled status is relatively new.

**Group Identity**

The link between prejudice and distancing from one’s stigmatized ingroup is a strong one and is the premise behind identity development models. By definition, stigmatized individuals are those who differ from the accepted majority and social norms. Consequently, not only might outgroups distance from the stigmatized group, but so might ingroup members internalize prejudices and devalue their own ingroup. On the other hand, to the extent that a group is
prestigious or higher on the social hierarchy, individuals are more likely to affiliate with the group (Marques, Yzerbyt, & Leyens, 1988).

Scholars agree that there are indeed differing levels on the extent to which stigmatized individuals identify with the devalued group. Racial identity models are based on the idea that targets of stigma experience various degrees of self-acceptance, from denying to valuing one’s minority group identity. Identity theorists suggest that stigma may function to limit developmental potential of its targets. Specifically, internalized stigma may stymie targets’ identity development trajectory towards advanced levels. Rather than progressing to more advanced stages of social identity, the stigmatized member may become stuck by internalizing societal prejudices toward him or her. Minority group identity is a vital construct in the model currently proposed, primarily because of its predictive utility in affiliative relationships.

This section contains an overview of racial identity development, specifically, African American/Black identity development as it has received the greatest attention from scholars, followed by a discussion on parallel concepts between racial and disability identity. Other minority identity development models are also discussed.

**Black/African American Identity.** William Cross is a pioneer in racial identity development research. Cross’s Nigrescence model of identity development is based on sociohistorical transformation of Black individuals from treatment as second-class citizens to rightful Americans (Cross, 1978). The model is based on the premise that African Americans have historically been subject to
stigma. Cross (1978) alluded to a “twoness” that African Americans might have felt: although desiring to be a valued part of society, African Americans were instead treated and made to feel apart from it. According to Hall, Freedle, and Cross (1972), a sociohistorical transition of Black American status has enabled the group to move past feelings of inferiority and inadequacy to transcendence and compassion towards the collective.

Paralleling this transformation process, the authors suggested that Blacks progress through several stages: pre-encounter, encounter, immersion, internalization, and internalization-commitment. At the pre-encounter stage, the individual may hold anti-Black attitudes and view the group as inferior to Whites. According to the authors, negative beliefs about Blacks, such as viewing the group as “untrustworthy” and “dirty,” may also be present. The Black individual’s worldviews are based on White frame of reference. What follows the pre-encounter stage is encounter. In this stage, individuals begin to realize themselves as of Black race and are more cognizant of the meaning of being a racial minority in America. This realization may stem from a shocking or intense event that changes their interpretation of their experiences. Individuals begin to believe that the Black perspective is important and that the group does hold much strength. The individual begins a search for the meaning of being Black and how it relates to his/her identity.

Immersion-emersion was the third proposed stage in the model. Here, there is deep involvement in Blackness. The individual is consumed by his/her Black identity, from immersion in Black literature and culture to attachment with
all Black ingroup members. Anti-White attitudes may also be present. Towards the latter end of the stage, the individual is no longer consumed by Blackness. Although there is consciousness that life experiences may be a function of one’s Black membership, racial identity no longer consumes one’s self-identity. Rather than viewing Whites as a superior group, the person begins to see White as simply another group with limitations, as well as strengths. The latter phase of the stage consists of cultural learning and openness about strengths and weaknesses of Blackness, rather than rage against Whites. The fourth stage is internalization. According to Cross, this stage is defined by ideological flexibility, where tension and high emotionality is replaced by calm and security with one’s Blackness. Here, the individual resolves White friendships and become less hostile towards members of the majority group. Finally, the internalization-commitment stage is where the individual focuses on matters beyond race such as altruism, compassion for the oppressed and collective action (Hall, Freedle, Cross, 1972). This stage is also defined by his or her commitment in resolving problems related to minority group interests.

Cross’s model had gone through several revisions and the Nigrescence model (aka Cross Racial Identity Scale (CRIS)\(^1\)) subjected to more rigorous psychometric evaluation. Hall, Freedle, and Cross (1972) examined the model’s conceptual validity with the 14-item Stages Questionnaire, where the authors found that participants sorted and clustered the scale items consistent with the proposed stages. Their findings provided some conceptual validity evidence.

---

\(^1\) The name of this stage was subsequently revised to Cross Racial Identity Scale (CRIS) and this newer name will be used from this point forward.
Aligned with Cross and colleagues’ ideas of Black identity development, Krate, Leventhal and Silverstein (1974) found that African Americans do agree to undergoing several stages of Black identity. The authors proposed that internalization of prejudice results in differences on Black identification. Individuals transition through several processes, from distancing and feelings of inferiority, to immersion strictly within one’s own racial group, to a sense of security about oneself and a focus on matters greater than one’s race.

Helms (1990) adapted the model and suggested that the stages may be characterized by unique emotional, behavioral, and cognitive expressions; that is, the stages may be considered as distinct worldviews. The author suggests that advancement from one stage or worldview to the next may be interpreted as cognitive maturation. For example, an individual in the pre-encounter stage may idealize Whiteness and have negative personal identity whereas an individual in the internalization-commitment stage will have a worldview where race is not a central theme and have positive personal identity. Reflecting her conceptualization of the Cross’s model, Helms created the Black Racial Identity Attitude Scale (RIAS-B), consisting of items that tap into emotional, cognitive, and behavioral domains of Black identification. However, the RIAS-B has been subject of some criticism (Cokley, 2007). Cokley (2007) alludes to Helms’s unclear description of the original development of the RIAS, including its factor analytic procedures (i.e. there was no clear description of the factor extraction method used or the criteria followed for factor retention). Cross has also since then revised the model by eliminating the fifth stage, internalization-commitment,
and specifying that each dimension name represents themes of the stages rather than identity. Cokley (2007) summarized the other changes. First, the preencounter stage is comprised of three identity subcomponents: assimilation, miseducation, and self-hatred. Second, the immersion stage has two identities: intense Black involvement and anti-White sentiments. Finally, the internalization stage consists of Black Nationalist, biculturalist, and multiculturalists inclusive identity components. Thus, according to Cross’s research camp, Helms’s RIAS-B no longer represents the most up to date conceptualization of the CRIS. CRIS has undergone much testing and seems to have robust psychometric properties (Vandiver, Cross, Worrell, & Fhagen-Smith, 2002). For example, Vandiver, Cross, Worrell, and Fhagen-Smith’s (2002) findings from factor analyses of the items confirmed a six factor structure consisting of pre-encounter assimilation, pre-encounter miseducation, pre-encounter self-hatred, immersion-emersion, internalization-Afrocentric, and internalization multiculturalist inclusive.

Whether the process of transformation is a “stage” or progressive rather than iterative process is up for debate. Sellers, Rowley, Chavous, Shelton, and Smith (1997) proposed a dimensional (rather than stage) model of Black identity development. The Multidimensional Model of Racial Identity has four distinct components based on personal significance of one’s racial identity and on the meaning that African Americans attribute to the group as a whole. First, salience, is a situation dependent racial self-concept and is defined by the extent to which the individual defines him or herself as African American at a specific moment in time. According to the authors, the salience dimension may vary according to
situational context. The second dimension is *centrality* or the relative importance of race to one’s identity, where the authors assume that race is only one of other potential group memberships. *Ideology* is the third dimension, which refers to philosophical beliefs about how one should interact with outgroups and others in society. Sellers and colleagues proposed subcomponents in the *ideology* dimension: nationalist, oppressed minority, assimilationist, and humanist philosophy. Finally, *regard* captures one’s positive and negative feelings about the racial group (private regard) and their perception of outgroups’ positive and negative feelings about their racial group (public regard). Sellers and colleagues created the Multidimensional Inventory of Black Identity (MIBI) to capture the various dimensions of racial identification, however, because identity salience is thought to be situationally and contextually dependent rather than stable, this dimension was not included in the scale.

Another widely used assessment of racial/ethnic identity is Phinney’s (1992) Multigroup Ethnic Identity Measure (MEIM), which assesses three domains of ethnic identity: affirmation/belonging, ethnic identity achievement, and ethnic behaviors. The *affirmation/belonging* subscale refers to feelings of belonging, attachment, and pride with one’s ethnic groups. *Ethnic identity achievement* captures the meaning that individuals assign to their ethnic group and its role in their lives. Finally, the *ethnic behaviors* component is comprised of two items that considers participation in behaviors that are specific to one’s culture and in activities that include mostly of within ethnic group members.
Other Minority Identity. Reviews of other identity development models carry similar themes and criticisms. For example, Eliason (1996) reviewed several models of lesbian identity development and found that not only did developmental themes differ among models, but some proposed a linear stage model and others complex iterative ones. *Identity confusion, identity pride,* and *identity synthesis* were some concepts mentioned in Eliason’s review that is consistent with the discourse in racial identity development models. Identity integration or synthesis and pride are both running themes in Cross’s of model of identity development. Pride as an indicator of advanced identity formation is also discussed in disability identity models. Eliason also mentioned that some scholars question whether the ideal lesbian identity is one where one’s sexual orientation is integrated as a small part of one’s personal identity or as a dominant one. The latter, according to some, would encourage lesbian political activism such that individuals would be more capable of making political statements, thus proposing that a personal identity where one’s lesbian identity dominates is the healthiest identity.

Eliason (1996) proposed an alternative model and suggested that stigmatized minorities transition through a cycle of identities across the lifespan. According the author, first, there is a *pre-identity,* which is similar to Cross’s pre-encounter stage wherein the individual adheres and is primarily exposed to mainstream views and may be ashamed of his or her minority identity. According to the author, at pre-identity the individual is not aware of oppression and cannot identify or understand it as it occurs. The next cycle that Eliason proposed is
emerging identities where an exploration of identity occurs. In the case of lesbians and other social minorities, in this cycle, there is greater awareness that social stereotypes are ingredients to oppression. The third cycle that Eliason proposed is similar to Cross’s encounter stage. In the experiences and recognition of oppression cycle, the stigmatized individual experiences being a direct target of discrimination or experiences it vicariously. According to the author, an oppressive experience is necessary in order for the target to realize that oppression does exist. Finally, the reevaluation/evolution of identities cycle is when identity change occurs. The author suggests that although identity does change, it is not always a dramatic change. The change in identity differs across individuals, for some the change could be very gradual and in private and for others it is open and public. Eliason suggests that the change and how it manifests depends on sociohistorical and cultural contexts. In this model, the healthiest identity is one that is accommodative to context and is a lifelong process.

Under the premise that women are also devalued and can identify with much of the minority experience, scholars have proposed that the group, too, undergoes a similar identity development process. By applying Cross’s model of racial identity development to feminist identity, Downing and Roush (1985) suggest that women can acquire and maintain a positive minority identity. The authors propose that women might also progress through five stages of feminist identity, which include passive acceptance, revelation, embeddedness-emanation, synthesis, and active commitment. Through the stages, she progresses from unawareness of sexism and gender inequality, to realization, anger and guilt over
her ignorance, then connectedness with other women, and, finally, a positive self-concept and commitment to social change against sexism. Bargad and Hyde (1991) followed-up on the model by creating a validated measure of feminist identity, the feminist identity development scale. Consistent with the theoretical model, the authors found five-factors from a set of 39 items that validate Downing and Roush’s concept.

**Disability Identity.** Research on disability identity has not achieved nearly as much breadth or depth as that of racial identity, especially in scale development. Investigations have focused on evaluating developmental phases of disability identity and their content, thus, most are qualitative inquiry rather than quantitative scale development and statistical modeling of antecedents and moderators of wellness. Racial identity models and associated outcomes have received much attention from scholars and can usefully inform measurement of disability identity and its relationship to important wellness variables. Consequently, racial identity models and scholarly work in this area are the basis of model predictions here on the relationship between disability identity and wellness. In this section, a review of disability identity literature is presented, where areas in which disability and racial identity converge and diverge are highlighted.

As mentioned previously, much of the research on disability identity have focused on people’s lived experiences as persons with a disability, and some—although insightful—verge on anecdotal. Gill (1997) suggested that developing healthy identity is one of the developmental milestones for people with
disabilities, in terms of self-identity and group identity. However, people with disability face many roadblocks on the path to healthy disability identity.

According to Gill, one is separation from society, a byproduct of social structures that stigmatize people who have a disability and physical inaccessibility that limit interaction of people with disability with mainstream society. Nevertheless, according to Gill, people who have a disability experience identifiable disability identity developmental trajectories. Based on her experience as a researcher, conversations with other people with disabilities, and counseling relationships, Gill suggests that people with disabilities go through four steps of identity development: coming to, coming home, coming together, and coming out.

*Coming to* refers to the feeling of belongingness in society and comfort in a society that devalues one’s group. The salient feature of this step is one’s desire to be “normal” and to fit in with others in mainstream society. Gill proposes that *coming home* is the second step towards healthy identity. It refers to disability group integration, where the individual may report feeling accepted by similar others who experience disablement. The author also alluded to distancing from the disability group, in the same way that racial minorities might, as a result of stigma. The author suggested several reasons for this. First, contact with other disabled individuals might trigger hurtful memories related to past mistreatment. Second, participating in disability-specific events might be seen as a sign of tolerance for unresolved exclusionary mainstream practices. Third, according to Gill, internalized prejudice might cause people who have a disability to devalue their own ingroup. This idea is consistent with the pre-encounter stage in the
CRIS model of racial identity development, wherein individuals think from the perspective of the White majority, devalue the Black ingroup, and have negative personal identities due to internalized prejudice. For people with disability, another barrier to positive identification with the disability group is also caused by social stigma, where individuals are afraid to affiliate with similar others for fear that negative attributions towards one’s group will also be assigned to oneself. Thus, although individuals may not have internalized prejudiced attitudes, they may be afraid that undesirable ascriptions towards the group will also be assigned to them.

The final step in Gill’s developmental model is coming together, where the individual can identify with the group or as someone who has a disability without hesitation. Thus, it is a feeling of comfort about oneself and pride with one’s identity. In this stage, Gill asserts that there is renewed interest in relating to society rather than distancing from the mainstream. This idea is similar to the final stage in the CRIS model, where betterment of the larger society rather than race-specific matters is the focus. A validated measure of Gill’s concept of disability identity development has not yet been published in peer-reviewed literature, but the model shows promise and holds themes consistent with racial identity models and thus, could be demonstrative of its conceptual validity. Research findings point toward validity of Gills disability development model. Whitney (2006) examined the multiple identities of women with disabilities who were also queer by conducting structured interviews on identity with five women who were queer and identified as disabled. The author found
themes consistent with Gill’s conceptualization of identity development. For example, Whitney alluded to the “coming home” experiences of the women and its complexity. Although the participants mentioned pride in regard to their queer identities, they viewed disability as undesirable. Thus, for individuals who belong to multiple devalued groups, the process of integrating minority group identities into their personal identities may hold similar themes but the developmental process between the multiple identities may not occur in synchrony.

Although a promising model of identity development, Gill’s model is work in progress. For example, the author does not clarify whether her disability identity development is a stage or an iterative process. Other scholars are unsure about the course of identity development and suggest that it may be a recurrent process, where some individuals are not able to accept a disability fully (Kendall & Buys, 1998). However, in Kendall and Buy’s (1998) review of psychosocial models of adjustment to acquired disability the authors found that most models have in common the initial period; specifically, shock and denial, distress, and, eventually, acceptance with one’s disability. The authors also alluded to negative self-perceptions and low self-worth, which may lead to helplessness and depression. Their findings and other scholarly findings support the idea that denial and avoidance from personally identifying as a person with a disability are normative processes. For example, Gilson, Tusler, and Gill (1997) referred to the process as a transition from denial and attempts at passing as non-disabled, to tentative acceptance of one’s disability, to disability pride. However, herein lays the difference between minority statuses of race and acquired disability; whereas
racial minorities are cognizant of their racial status at a very young age and thus have the opportunity to gradually become aware of injustices toward their group, those who acquire a disability are not given this opportunity. Individuals who have a congenital disability may have a similar developmental trajectory on identity as racial minorities in that they, too, may be aware of their minority status at an early age and are born with this status. An acquired disability, especially due to injury, is an unexpected occurrence. Thus, the process by which one acquires the minority status is fundamentally different. The critical question then is whether or not progression to pride with one’s minority status occurs in the same manner.

One participant in the Gilson and colleagues’ investigation mentioned that the identification process is just like with other minority groups in that it is also possible to pass as non-disabled, especially for people with hidden disabilities, which introduces some ambiguity as to whether it is necessary for individuals to declare their disability or “come out” in order to transform to more advanced stages of disability identification. The authors suggested that this question is unresolved and be a topic of continued discussion for disabled persons. Gilson and colleagues also mentioned that the concept of disability identity and what it means for disabled person to own a disability status was yet unclear. In question were shared norms, values, behaviors that people who identified as disabled should endorse. The authors’ narratives show that one of the challenges with research on disability identity is demystifying what the process is in the first place, which can look different according to disability, especially, between
individuals who have visible versus hidden disabilities. Needless to say, there are still many empirical questions yet unanswered on disability identity, the process of transformation, and its measurement. Further, another fundamental issue must be recognized in that the development of disability identity may be different for those with congenital disabilities compared to those with acquired disabilities. For this reason, only people who have acquired disabilities will be sampled. Comparison of the transformation process between those who have acquired and congenital disabilities is beyond the scope of this study and is more appropriate in follow-up investigations.

As already mentioned, although no psychometrically validated measure of disability identity has yet emerged, there has been a number qualitatively-focused investigation on its content and processes, including Gill’s (1997) “coming home” model. Also, in more current research, scholars have suggested a similar thematic process of identity comparable to Cross’s model. Moreover, just as Gill had asserted, other scholars have suggested that the transformation process into more advanced and (what is assumed to be) healthier identification stages or steps is similar to identification processes that other marginalized groups undergo. For example, Onken and Slaten (2000) suggested that people with mental illness transition through several states as they transform from shame to positive identification as someone with a disability. According to the authors, these states of transformation are (1) preawareness, conformity or denial, (2) contact and comparison, (3) confusion and dissonance, (4) tolerance and connection, (5) immersion and resistance, (6) acceptance and pride, and (7) introspection and
synthesis. Preawareness, conformity, or denial is a point in which the person with a disability adheres to the medical model of disablement, where he or she interprets disablement as a personal or functional deficiency and failure. According to the authors, the individual at this state may be in denial of the disability or acknowledge it but make attempts to pass as non-disabled. Contact and comparison state alludes to an experience, similar to the encounter process that Cross (1994) referred to and the experience and recognition of oppression cycle that Eliason (1996) alluded to, which encourage individuals to challenge their views on disability. In this state, according to the authors, the individual realizes that the medical model viewpoint is ableist (i.e., prejudiced towards people with disabilities). Disabled persons realize that medical professionals and those who adhere to the medical model view disablement as a limitation or a disadvantage, which according to Onken and Slaten, may cause disempowerment. The individual in this state experience consciousness, of sorts, for why he or she is feeling different from others. The confusion and dissonance state leads the individual to questions about personal identity. Onken and Slaten suggests that there is a feeling of isolation and although the individual can recognize ableism, based on participant narrative examples, individuals may not yet completely accept a personal identity as a person with a disability. In the tolerance and connection state is where exploration of one’s disability identity begins and so do friendships with similar others with disabilities. According to the authors, immersion and resistance refers to relationships that are exclusively with disability ingroup members. What Onken and Slaten means by resistance is less
clear. In reference to resistance, the authors simply state, “The person may retreat from ableist society to the fullest extent possible.” In comparing this immersion state to racial identity models, this point in a disabled person’s life might be analogous to a Black individual with high racial salience and centrality. It is also comparable to the immersion-emersion stage of CRIS that is characterized by intense involvement in Black culture. The authors propose *acceptance and pride* as another state in the formation of positive disability identity. It is characterized by a sense of empowerment where one is willing to challenge ableist views and may have found ways to cope with ableism by learning from other individuals with disabilities who have had similar experiences. Finally, *introspection and synthesis* is a state wherein people no longer feel a divide between the disability ingroup and abled outgroups. Self-acceptance and community involvement are salient themes, and so is leadership. There is positivity and a sense of security with one’s personal identity. Similarities can be found between Onken and Slaten’s *introspection and pride* state and the final stage of CRIS where anger towards the White majority is no longer present, but community at large is of greater concern. Further, the idea of positive personal identity and comfort with oneself aligns with Gill’s final step of positive identity development, *coming together*, where the central theme is self-acceptance, sense of comfort, pride, and community involvement.

Onken and Slaten suggest that the transformation process is also not necessarily sequential, but complex due to the shifts in impairment for people with mental illnesses. On the other hand, the CRIS is thought to be a stage
process, indicating that racial identity transformation is progressive. The authors suggest that the stage process assumes that identification is a one-dimensional construct, whereas viewing the identity transformation as states suggest a multidimensionality and non-linearity.

Onken and Slaten’s model of identity transformation is a promising one, yet it is unclear as to what extent themes presented can be generalized to other forms of disability. The scholars focused on disability from mental illness and did not address visible disabilities such as physical disabilities. For example, the authors alluded to the idea of acknowledging disability, but passing as non-disabled. This step may not apply to someone with a physical disability as concealment of one’s visible disablement (e.g., wheelchair use) may not be possible and, certainly, denial that one is not physically disabled will be entirely impossible for some. However, it is probable that this psychological state or desire to pass as non-disabled is initially present for persons with a disability who have not accepted the disability, regardless of whether the disablement is visible or not. For instance, an amputee who uses a prosthetic arm might avoid wearing short-sleeved shirts in order to conceal an amputation. Thus, even though the authors had not explicitly stated the generalizability of the states model of identity transformation, experiences of people across various disabilities have enough in common to suggest that the authors’ model on mental illness could be validly applied across other different disabilities.

There is some evidence suggesting that the healthiest disability identity is similar to the *internalization* stage of racial identity development. Hahn and Belt
(2004) found that disability activists, who are thought to be the most highly identified with the group, tend to show great pride and value in being disabled. Specifically, the authors found that disability activists who have disabilities indicated that they would refuse a cure (e.g., walking to cure a spinal cord injury) if it was presented to them. However, “healthy” is a value judgment and thus, is another point of contention. Some scholars believe that healthy identity is when pride and activism is present and one’s minority identity dominates personal identity (Cross, 1978; Gill, 1997; Onken & Slatin, 2000). On the other hand, others such as Eliason suggests that achieving healthy identity is a lifelong transformation and one’s minority belonging need not necessarily dominate self-identity nor must one’s pride be pronounced publicly.

**Group Identity and Health**

The notion that group identity predicts mental health is not a novel one. Racial identity researchers have long argued that certain identity domains are linked with healthier psychological outcomes for racial minorities. For example, Sellers, Caldwell, Schmeelk-Cone, and Zimmerman (2003) found that the relationship between racial discrimination and stress was weaker for Blacks who scored high on racial centrality than those who scored low. Those who score high on centrality define themselves based on race to a great extent. Sellers, Copeland-Linder, Martin, and Lewis (2006) suggest that strong racial identification may prevent internalization of stigma and that realizing that others have negative views toward African Americans may actually buffer the effects of discrimination on psychological functioning. The authors suggest that those who are more aware
of racial discrimination towards African Americans may have developed greater coping mechanisms. Stock, Gibbons, Walsh, and Gerrard (2011) have also found evidence supporting racial identity as protective against the effects of racial discrimination on substance for African Americans. First, the authors found that when participants imagined being racially discriminated against, those who had low racial identification reported greater willingness to substance use and were more likely to mention substance use in an imagined scenario. These relationships were not found for participants with high racial identification. Second, when participants who reported high use of substances were placed in a situation where they were socially excluded, those whose racial identities were not affirmed were more likely to report willingness to use substances and mention them in an imagined scenario. Altogether, findings suggest that racial discrimination is a substance use risk factor, and racial identity affirmations, buffers this relationship.

There is great evidence indicating that being subjected to stigma has direct and indirect negative effect on the well-being of those targets and that group identification may lessen the damaging effects. Branscombe, Schmitt, and Harvey’s (1999) model of rejection-identification suggests that being subjected to prejudice and the target’s willingness to make attributions to prejudice have negative and positive impact on personal well-being as defined by self-esteem and emotional states. Specifically, the scholars’ findings indicate that to the extent that African Americans attribute events to prejudice, they are more likely to have poorer psychological well-being. Further, supporting the idea that ingroup-outgroup relationships suffer as a result of stigma towards the minority group, the
authors found that African Americans who attribute events to prejudice are more likely to hold hostile views toward Whites and were less likely to feel belongingness in their devalued group. However, the authors found support for the protective function of minority group identification; that is, group identification was significantly and positively related to collective well-being (group belongingness) and personal well-being (self-esteem and less negative emotionality). In sum, group identification has been linked to psychological wellness by its protective mechanism.

Disability identity may be related to other positive outcomes. For example, Weinberg and Sterritt (1986) assessed the construct of Deaf identity in high school students who had hearing impairments. The authors assessed the students’ primary identities and classified them as either identifying as hearing, deaf, or dual (hearing and deaf). It was found that hearing-impaired students who identified as able-bodied (i.e., of hearing) had poorer perceived peer relationships, academic outcomes, and self-evaluations, and greater likelihood of perceiving that their family did not accept their identity. Dual-identified students had the most positive results on these outcomes. Findings might suggest that strong identification with one’s disability group may not be most facilitative of wellness. However, the extent to which findings can generalize to outcomes for people with other disabilities is limited. Being deaf can more easily be concealed if one wishes to do so. One the other hand, physical disablement is not as easily hidden. Not identifying with one’s group may be futile and result in learned helplessness.
Nevertheless, there has been evidence suggesting that group identity may be predictive of health. One caveat is that scholars have not necessarily focused on minority group membership in particular but on any group membership in general. For example, Laverie (1988) proposed that aerobic identity reinforce participation in aerobic activities. Also, Schofield (2003) found that for adolescents, strength of identification with peer smokers positively predicted smoking behavior.

**Group Norms and Health**

Identity is not a critical factor simply because it predicts affiliation, but also because affiliation predicts behavior. The theory of planned behavior suggests that factors that account for behavioral intentions and actual behaviors, including health behaviors, are 1) attitude towards the behavior 2) social norms 3) perceptions of controllability (Madden, Ellen, & Azjen, 1992). Affiliations with similar others who have disabilities introduces norms regarding health promotive behaviors, which could potentially alter attitudes regarding healthy behaviors. Further, modeling and learning from one’s group can shift one’s perception of controllability. Madden, Ellen, and Ajzen (1992) explains that as people familiarize with the context of the behavior, their perceptions of their ability to control the behavior becomes more accurate, and therefore these perceptions are better able to predict performance of the behavior, suggesting that knowledge is power in health promotion. Where once one did not have the know-how on risk prevention or locating resources, from the ingroup one can learn how; for example, from friends who have physical disabilities and use wheelchairs, one
can learn how to access free public transportation, the frequency with which to change catheters, use an appropriately-fitted wheelchair, and conduct pressure checks—all health-promotive behaviors. One caveat is that just as affiliation can promote health, so can it encourage risky ones.

Contrary to the protective influence of identity on substance use that Sellers and colleagues (2003; 2006) asserted, some findings indicate that in certain contexts strong identification with one’s group may lead to poorer health outcomes. For example, Oyserman found that racial-ethnic minorities believed that healthy behaviors such as exercising, getting enough sleep, and eating fruits and vegetables were White middle class behaviors, which may be one reason that they were also less likely to engage in these health promotive behaviors (Oyserman, Yoder, & Fryberg, 2007). More importantly, the authors found that group identification has a causal role in health attitudes. The authors found that when individuals’ ethnic minority group membership was primed, they were more likely to endorse defeatist statements about health (e.g., “Everyone gets fat over time; there is no point worrying about it.”; Oyserman, Yoder, & Fryberg, 2007).

Social Support and Health

Social support, as a source of positive influence on individuals, is a construct that has received much research attention, but how social support might actually affect health and wellness is less well understood. Findings have contradicted the notion that support and health are positively related. For instance, Smith, Fernengel, Holcroft, and Gerald (1994) examined support’s direct impact on health and indirect impact through stress-buffering hypotheses using meta-
analytic procedures. Sixty published and seven unpublished sources were examined and authors found only a positive but weak correlation between social support and health outcomes. According to Smith and colleagues, there are several reasons for such a finding, one is methodological limitations. Specifically, the authors cited inappropriate cross-sectional designs and statistic methodology. Most importantly, the type of social support measured in research studies may not be the appropriate one or specific enough given the population of interest. The authors suggest that assessing the effect of specific types of supports on specific types of health issues lead to better understanding of this relationship.

Currently, what will be most useful in understanding the pathways to health for people with disabilities is the examination of disability-specific supports. It is also important to note that the most beneficial type of support would depend on disability type. For example, someone who has a physical disability and must use a wheelchair would need to know who to turn to for wheelchair services, whereas someone who is deaf would need to find information about interpreter services of great use.

Oversimplification of stress-buffering models was another reason for the ambiguity in the relationship between social support and health that Smith and colleagues alluded to. A stress-buffering model suggests that social support is only helpful in cases where individuals are experiencing stressful events.

There are several ways that social support could play a role in the onset, severity, and progression of health problems, by either altering their perceptions of the stressful event and attenuating negative behavioral and physical health
effects to prevent physiological stress responses from occurring in the first place or by weakening direct effect of stress and negative health behaviors on disease (Cohen, 1988). Alternatively, according to Cohen (1988), a main-effect model contains no statistical interaction between levels of stress and social support on outcomes, suggesting that social support bolsters people’s well-being regardless of whether stress is present. Cohen proposed several different main-effect models. To qualify, the author also states that main-effects models assume that social integration, or identification with different groups, is what makes social support promotive of health. First, an information-based model predicts that advice from others promotes health by increasing their capacity to seek and obtain preventive care, ability to perform health-promoting behaviors and knowledge about ways to avoid stressors and potential health hazards. Second, identity and self-esteem models predict that social integration facilitates positive self-esteem, perceived control, positive affect, and sense of well-being, consequently improving people’s motivation to follow health-promotive behaviors or improving physiological immune responses. Alternatively, Cohen suggests that the social influence model assume that others could influence health promotive behaviors by peer pressure or social sway. Finally, tangible-resource models predict that social networks serve to provide aid such that its members are taken-cared of and less exposed to health risks.

Theoretically, the current investigation assumes a main-effect model rather than buffering model in that stress itself is not statistically measured but assumed, given that physical disability itself is stressful. It is suggested that
regardless of whether stress is present, social support bolsters health such that those who have more social support from people with disabilities (or disability advocates) are healthier than those who receive little to no support. Previous finding support this proposition. In a review, Heitzmann and Kaplan (1988) found multiple studies indicating that social support from family and/or friends was related to improved health including, reduced emotional distress from injury, higher self-esteem and life satisfaction among burn victims, higher morale following onset of dialysis for kidney disease, and better adherence to treatment orders by people who have chronic diseases.

Ganster and Victor (1988) also examined the role of social support in physical and mental health promotion and risk prevention. According to the authors, the positive effects of social support can be found strongest in mental health outcomes. In their review, the scholars found empirical support for the relationship between social support and psychiatric incidence, suicide, depression, anxiety, and found that social support reduced the negative effect of daily stress on mood. However, in terms of physical health, the evidence is ambiguous. For example, social support has not been consistently linked with lower morbidity and on reason that the authors cited is the different ways in which both social support morbidity are defined in literature. Even experimental intervention that have social support components and might allow causal attributions on the effect of social support have not been convincing due to research methodological limitations. First, according to the scholars, intervention studies did not make clear descriptions of the social support component of the interventions nor did
they directly measure changes in social support. Thus, the intervention experiments and the mechanism by which they provided social support were unclear, making it difficult for researchers to make causal conclusions on the effect of support. In addition, the authors reviewed empirical findings on the stress-buffering effect of social support on stressors in the workplace and did not find convincing evidence. On the other hand, the authors stated that a main-effect model of social support is more persuasive, citing that social support has generally accounted for the 5 to 10 percent of the variance in mental health outcomes.

The relationship between social support and various health outcomes may be obscured by the construct itself, its broadness and definitional ambiguity. Social support and the way it has been inconsistently operationalized is its own undoing. Researchers who have reviewed social support models have noted this limitation (Barrera, 1986; Cohen, 1988; Chronister et al., 2008; Smith et al., 1994). As previously mentioned, Ganster and Victor have noted as such in their review of social support and morbidity rates. Barrera (1986) alluded to vague and broad definitions of social support in scholarly literature, suggesting that one way to make sense of the construct is by organizing it according to the ways in which it has been operationalized in research. The author constructed three categories of social support: social embeddedness, perceived social support, and enacted social support. Social embeddedness refers to social ties, under the assumption that one’s relationship to others and with the community are social support resources. According to Barrera, social network in terms of size, quality of relationship, and
so on is one way that social embeddedness is assessed. *Perceived social support* is another category that the author identified from his review of literature. It refers to a person’s evaluation of his or her social ties, specifically, the availability and adequacy of one’s sources of support. Finally, *enacted social supports* are measured by behavior indicators of support. The author suggests that this dimension might essentially be “perceived received” support because they are based on retrospective data rather than observations of supportive actions.

Smith and colleagues (1994) also referred to the various subcomponents of social support from the hundreds of studies conducted about the subject matter: emotional support, appraisal support, informational support, and instrumental support. In the authors’ meta-analysis they more concisely categorized these social support types into three dimensions: qualitative, quantitative, and functional. The authors categorized the number, frequency, and type of contact as *quantitative social support* (i.e., social support measured by network structure was categorized under quantitative). *Qualitative social support* referred to perceptions of the availability and adequacy of support. Finally, *functional support* connotated tangible support by information, aid, or action. Positive emotions resulting from others’ supportive actions were also categorized under functional support.

Alternatively, Cohen and Wills (1985) suggest social support as comprising of two general components: structural and functional support. *Structural support* describes the characteristics of the relationships whereas *functional support* indicates the functions of these relationships. Examples of the
way in which structural support has been operationalized in research include marital status; living situation (alone or not); participation in church, clubs or community; number of relatives and friends living nearby; church attendance; neighborhood cohesion, interactions with neighbors; frequency of talking with friends and/or family; and telephone and social contacts. Needless to say, structural support can manifest in various relationships in wide-ranging contexts. However, the authors suggest that structural support is only an indirect measure of support and is only weakly correlated with functional support. When it comes to stress-buffering relationships, according to the authors, the quality of support, rather than quantity, is of greater importance. Further, in order to show the buffering effect of support, specificity of functional support is critical; that is, according to Cohen and Wills, the match of functional measure with the stress event is crucial in detecting buffering relationships. Based on a comprehensive review, the authors found that availability of confidants has been a widely used indicator of functional support. Examples of confidant availability measures include existence of intimate relationships with significant others, frequency of problems from lack of close friends/companions, and adequacy of confidant relationships based on interviews. According to the authors, inherent in confiding relationships is provision of esteem and informational resources, which is one reason that it has been consistently found to attenuate the effects of stress on symptomatology. In particular, in the authors’ review of the relationship between stress and depressive symptoms, consistent across ten of thirteen reviewed studies, confidants were found to have buffering effects through enhancement of
self-esteem, personal efficacy, and provision of information. Functional support has also traditionally been measured through more specific indicators such as amount of help received from others (instrumental support), social companionship, tangible spousal support, and ratings of the quality of informational and informational support from significant others. Echoing other scholars, the authors suggest that the utility of specific functional supports in buffering the effects of stress on negative outcomes is obscured because of the diversity of measures used to assess specific functional support across studies.

Currently, it is proposed that for people with disabilities, and those who are recovering from a newly acquired disability in particular, one of the most important health-related indicators is rehabilitation outcome. Chronister, Frain, Chou, and Silva Cardoso (2008) examined the association between social support and rehabilitation outcomes. Although their review was neither a test of stress-buffering nor main-effect models, they did provide a comprehensive overview of research findings in this area through meta-analytic procedures. The authors examined the role of specific types of functional social support—perceived satisfaction with social support, perceived availability, and received social support—and found that perceived availability accounted for more variance in rehabilitation outcomes than perceived satisfaction and received supportive behaviors. Rehabilitation outcomes were defined by varying types of indicators including employment, psychological wellness, self-assessed and objective physical health, quality of life, and adjustment to disability. The strongest relationships (i.e., correlated above .4) between specific social support variables
and outcomes were found between perceived availability and psychological health, perceived availability and quality of life, received support behaviors and adjustment to disability, and received supportive behavior and employment.

Overall, Chronister and colleagues found that when rehabilitation outcomes were combined, the effect of social support on outcomes were small to medium. Specifically, received social support had a small effect (.21), and perceived satisfaction and availability had a medium effect size (.28 and .32, respectively).

Chronister and colleagues findings suggest that social support has positive effect on psychological health. However, holistically, the relationship between social support and health is still not clear. Tay, Diener, and Gonzales’ (2013) found mixed support for the relationship between social relations (social support and social integration) and health behaviors and outcomes. For example, although the relationship between general measures of support and healthy dieting is weak, according to the authors, there is some evidence that support is predictive of physical activity (and therefore, promotive of health). Overall, social support seems to reduce negative health. The authors’ findings indicate that social support was associated with better chronic illness management and lowered suicide risk, self-injury risk, and mortality rate. The authors offered familiar advice by suggesting that the variation in the way that social support is measured may be the reason that there is some vagueness on the benefits of social support on health. The authors advise that not only should social support measures assess specific support, but so should health outcomes be based on specific health behavioral outcomes. Thus, the scholars echoed what others have recommended, that in order
to discover outcomes of support, scales assessing it and its outcomes must be specific. According to Tay and colleagues, assessing support for specific behaviors from the supporter and its relationship to specific health behaviors of the receiver is critical.

Mutual help groups and peer-mentoring relationships, such as 12-step substance use recovery groups, are a type of social support-based intervention that have been shown to relate to successful outcomes. Groh, Jason, and Keys (2008), in a review of literature, examined the relationship between Alcoholics Anonymous (AA) involvement and social support. The authors indicated that studies that were more rigorously conducted tended to find that involvement in recovery groups were related to social support structure such that those who were members of groups were shown to have a larger group of friends, perhaps by the addition of 12-step friends into their social networks. The authors’ findings reflected other scholars’ observations on social support, that the influence of social support on an outcome is dependent on the type of support being measured. In their review, the authors found that friendships are predictive of use reduction or abstinence, but not other sources of support (spouse, romantic partner, family members). Specificity of support seem to matter in that it was found that having an AA sponsor was related to abstinence especially when the member has a network that encourages drinking. These findings support the notion that source of support should be specific to the outcome being assessed in order to capture effects.
The primary concern in this study is identifying the antecedents to the relationship among identity, social support and wellness. It is proposed that disability identity plays a particular role, accounting for social support for people with disabilities, and that social support promotes health.

**Rationale**

There is some evidence indicating a positive relationship between disability identity and health, however, the mechanism by which this relationship manifests itself is unclear. The current investigation is important for theoretical advancement of disability research. First, to the author’s knowledge, this study is the first to directly test the interrelationship among group identity, social support, and health among people with physical disabilities. Although scholars have explored the relationship between group identity and health with mixed findings (in reference to Oyserman and colleagues’ (2007) and Sellers and colleagues’ (2003; 2006) somewhat contradictory findings on the influence of racial identity on health), and the positive relationship between social support and health has been strongly supported, a model on the interaction among all three variables has yet to be tested. Further, findings here will add to research on identity and can help clarify whether identity is indeed a protective factor. Second, no published psychometrically validated measure of disability identity scale exists. The disability identity scale used for the current study would provide validation data to move the disability identity literature forward. As mentioned previously, much of the work on disability identity has been qualitative in nature, exploring personal experiences of people with disabilities in regard to disablement and identity
development. To further advance identity and its contributing role to health, scholars must first develop a better understanding of the construct and how to reliably and accurately capture it. In addition, quantitative theoretical models can only be as accurate as the most reliable and valid scales used in the models. In order to make meaningful progress in the study of disability and to truly understand the psychosocial predictors of health for people who have disabilities, establishment of validated scales assessing critical constructs such as identity must be prioritized. Finally, this research adds to lacking literature on disability identity studies promoting a strength-based approach. The proposed model encourages the idea that group membership, even to stigmatized groups, is promotive of well-being; that is, fostering positive ingroup identification with one’s minority group is beneficial to well-being. Rather than suggesting that belongingness to a stigmatized group is something to be *dealt with*, it is something that should be fostered and nurtured because group identification (rather than isolation) leads to greater access to community supports and less powerlessness. In other words, the current research supports a social model of disability by assuming that challenges of people with disabilities emerge from stigma, social oppression, lack of access to resources, and failures of accommodation, to a significant degree. Research on disability studies, especially in rehabilitation and medicine, has traditionally adhered to the medical model of disability, which focuses on disablement, abnormality, and the functional limitations of people with disabilities (Olkin, 2002).
There are important practical implications to the theoretical, social model used here. The traditional medical model on disability assumes that the strongest predictor of wellness is dependent on the patient-doctor relationship: to the extent that the individual is able to adhere to the physician’s orders, he or she will be well. In contrast, the social model takes an alternative view, suggesting that one’s community plays a critical role in health by influencing one’s access to resources. It is a bottom-up rather than top-down approach to wellness by implying that people with disabilities have the strength and capability to gain power over community resources and supports. It is proposed that access to resources is critical to the health of people who have disabilities because this group ordinarily faces a multitude of challenges and barriers to wellness that are not direct results of functional disablement. First, as there is a low employment rate among people with disabilities, many are of low socioeconomic status and depend on public assistance with accessible housing, medical care, and transportation. Access to these community programs is critical for wellness. For example, without accessible housing, a person with a disability may experience social isolation as he or she must depend on others to travel in and out of the home; social isolation is a risk factor for depression. For a person who uses a wheelchair, accessible and reliable transportation is critical to successful health system use. Frequent no-shows to physical and occupational therapy and medical appointments can delay recovery from a disabling injury. Lack of knowledge about where to obtain free medical supplies like catheters can result in the development of secondary conditions such as urinary tract infection and pressure ulcers. Lack of accessible
housing, transportation, and knowledge about available services are all health risks that are outside the doctor-patient relationship. Thus, it is suggested that one way to improve wellness of people with disabilities is to place as much focus on community service delivery and access to community resources as that placed on the doctor-patient relationship. It is suggested here that one way to improve access to services for people with disabilities is by fostering positive disability identity. Strong identification with the disability community improves the likelihood of meaningful interactions among other individuals with disabilities. These interactions can consequently result in diffusion of knowledge about community resources, services, and wellness (i.e., functional social support), accounting for improved health.

Further, the current investigation assumes a main-effect model rather than buffering model in that stress itself is not statistically measured but assumed, given that physical disability itself is stressful. It is suggested that regardless of whether stress is present, social support bolsters health such that those who have more social support from people with disabilities (and/or disability advocates) are healthier than those who receive little to no support.

**Research Questions**

Research Question 1: Does disability identity predict social support and health?

Research Question 2: Does social support predict health?

Research Question 3: Does social support moderate the relationship between disability identity and health, such that the relationship between disability identity
and health is weaker for those with lower level of support than for those with higher level of support?

Research Question 4: Does the adapted disability identity scale show evidence of validity?

**Method**

Various pre-existing and adapted scales were used to operationalize disability identity, social support, and health. In addition, questions to assess informational social support from others who have disabilities were specifically created for this study.

**Materials**

**Disability identity.** Items from the MIBI (Sellers et al., 1997) were adapted to measure disability identity (Appendix B). The centrality, private regard, and public regard dimensions were adapted for use. For all disability identity items, participants indicated the degree to which they agreed with each statement regarding their identification as someone with a disability (1=strongly disagree to 7=strongly agree). The extent to which participants believed disability to be part of their self-concept was measured by an eight-item centrality dimension (e.g., “In general, my disability is an important part of my self-image.” “My disability is an important reflection of who I am.”). The regard dimension is an assessment of participants’ feelings toward the disability community and their belongingness in it. The six-item private regard subscale of this dimension assessed participants’ feelings—positive or negative—toward the disability group (e.g., “I am proud to be a person with a disability.”). The 6-items of the public
regard subscale tapped into their perceptions of others’ feelings about people who have disabilities (e.g., Overall, people with disabilities are considered good by others.

**Social Support.** Various measures of social support were included. General social support and support from others who have a disability were assessed (i.e., disability-specific social support). All disability-specific social support scales were adapted from pre-existing scales.

**General Social Support (GSS).** Perceived availability of functional social support was measured using the Medical Outcomes Study Social Support Survey (MOS-SSS; Sherbourne & Stewart, 1991). This scale is a multidimensional measure of support comprising of four highly reliable factors: tangible support, affection, emotional/informational, and positive interaction (Cronbach’s alpha = .92, .91, .96, and .94, respectively). Sherbourne and Stewart (1991) found that MOS-SSS is most highly correlated with loneliness, family functioning, marital functioning, and mental health (Pearson’s r = .67, .53, .56, and .45, respectively). Through a series of questions, the scale assesses availability of support (To measure emotional/informational social support: “How often is each of the following kinds of support available to you if you need it? Someone to give you good advice about a crisis.” 1=none of the time, 2=a little of the time, 3=some of the time, 4=most of the time, 5=all of the time).

**Informational Social Support-Disability (ISS-D).** Because MOS-SSS does not take into account the source of support, four items from it were adapted
to assess informational support from others who have a disability (e.g., “Someone who has a disability to give you information to help you understand a situation.”).

**Guidance-Disability (G-D).** In addition, guidance subscale items from the Social Provisions Scale (Cutrona & Russell, 1987) were adapted to assess provision of advice or information obtained from other people with disabilities (e.g., “There is someone with a disability I feel comfortable talking about problems with”). Scale anchors were altered from the original. Rather than the *strongly agree to strongly disagree* anchors used by the scholars, for the sake of consistency and statistical ease, the same anchors were used as other social support items (*none of the time to all of the time*).

**Practical Support-Disability (PS-D).** Practical informational social support items were also written specifically for this study. These items assessed social support regarding some information that are of frequent concern for people with disabilities (i.e., “There is someone with a disability I can talk to for advice about transportation issues.”).

**Health.** Select items from the Medical Outcomes Study 36-SF (MOS 36-SF) were used to assess overall health status of participants. All subscales were included, save the *physical functioning* scale. The physical functioning scale was omitted because it contained items that were inappropriate for use with individuals who have physical disabilities (e.g., items assessing ability to bend, kneel, stoop, or walk several blocks). Subcomponents of the MOS 36-SF included were *general health, role limitations due to physical health, role limitations due to emotional health, energy/fatigue, emotional well-being, social functioning,*
pain, positive affect, and general health. All subscales have shown good psychometric properties when a baseline on the scale with over 20,000 patients was conducted (Hays, Sherbourne, & Mazel, 1993). Alpha reliabilities of each scale on the SF-36 were .84 (role functioning/physical), .83 (role functioning/emotional), .86 (energy/fatigue), .90 (emotional well-being), .85 (social functioning), .78 (pain), and .78 (general health). Role limitations due to physical and emotional health scale was changed from a dichotomous yes or no to a 5-item scale (1=definitely true to 5=definitely false).

**Secondary Complications to Disability.** Items assessing occurrence of acquired secondary conditions to disability that were specifically written for this study were also included. Secondary complications that were measured included chronic muscle pain, sleep problems, skin problems, weight and eating problems, muscle spasms, bowel/bladder problems (1=not problematic to 5=extremely problematic).

**Mental Health.** To assess mental health, Kessler-6 was used (Kessler et al., 2003). The scale measures non-specific psychological distress (e.g., “About how often during the past 30 days did you feel nervous?...hopeless?...worried?”). The scale was shown to be an efficient mental illness screening tool in a validation study with the general population (Kessler et al., 2003). The same study found high internal consistency reliability of .89. Additionally, Kessler-6 has been widely validated in national and international surveys, including the National Comorbidity Survey and the Behavioral Risk Factor Surveillance System (Centers for Disease Control, n.d.; Kessler, n.d.).
Procedures

Seventy-nine individuals participated in this study. Individuals who have physical disabilities and were using a wheelchair were approached. Location of data collection were at various places in Chicago, frequented by people with disabilities (e.g., rehabilitation hospital, adapted sporting event, career fair for people with disabilities). In addition, the researcher approached Access Living, a large disability advocacy organization in Chicago, to recruit participants at community meetings.

First, participants were given a flyer with information containing information about the study, along with an information sheet containing a brief explanation of the study. The information sheet explained that participation was completely voluntary (Appendix E). Upon oral consent to take part in the study, participants completed the survey that assessed the constructs of interest: disability identity (Appendix A), social support (Appendix B), and health (Appendix C). Participants completed standard questions on their demographic characteristics (gender, age, race/ethnicity, sexual orientation, political leaning, education completed, and social class) and other questions regarding income (monthly income, source of public assistance, and monthly income from public assistance) and disability (disability type, wheelchair use, injury type, year of injury, and length of disability; Appendix D). While it was expected that most, if not all participants, would be able to provide their survey responses in written form, for those who did not have functional use of their hands, an accommodation was made. When accommodation was necessary, the principal investigator read
all items to the participant and recorded each response, and double checked with the participant to make sure what was written down was accurate. In addition, to prevent coercion, she stated queried at the end of each page whether the participant was willing to continue or not. Consent was secured in the same manner for all participants through the information sheet and an affirmative “yes” verbal response that he or she agreed to participate. Finally, participants were given a gift card as compensation for their time and effort. All received a $10 gift card to a local merchant (e.g., Dominick’s, Starbucks, Target) and provided a debriefing sheet where the purpose of the study was be explained. The principal investigator was always present during data collection to answer questions regarding the study.

Results

Participant Characteristics

Seventy-nine participants completed the survey and 66 were included in the final analyses. Participants were excluded primarily because they did not meet inclusion criteria. Eleven of the 13 excluded had a physical disability caused by a congenital disorder, degenerative disease or sensory disability rather than acquired physical disability. Two were excluded due to random responding and an incomplete survey.

The final sample was 80.3% (N=53) male and 19.7% (N=13) female. The average participant age was 38.6 years (SD=12.25). The majority identified as ethnic/racial minority: 31.8% (N=21) Black/African American, 31.8% (N=21) Hispanic/Latino(a), 24.2% (N=16) White/Caucasian, 1.5% (N=1) Asian, 1.5%
Native Hawaiian, 1.5% (N=1) American Indian, 1.5% (N=1) Multiracial, 3% (N=2) preferred not to share, and 3% (N=2) had missing data. Highest level of education level completed varied; 19.7% (N=13) had less than a high school diploma, 18.2% (N=12) graduated high school, 30.3% (N=20) took college courses but did not earn a degree, 6.1% (N=4) earned an Associate’s degree, 12.1% (N=8) earned a Bachelor’s degree, and 10.6% (N=7) held a graduate or professional degree. One participant preferred not to share (1.5%) and one had missing data.

Regarding socioeconomic status, 13.6% (N=9) identified as being very economically disadvantaged, 30.3% (N=20) as neither disadvantaged nor advantaged, 33.3% (N=22) moderately advantaged, 12.1% (N=8) economically advantaged, 7.5% (N=5) preferred not to share, and 3.0% (N=2) had missing data. Reported income source suggests high unemployment rate among the sample, 15.1% (N=10) said that their source of income was employment. Many relied on Social Security Disability Insurance (SSDI) as a source of income, 25.8% (N=17), and 21.2% (N=14) received Social Security Insurance (SSI). Source of income for a few were both SSI and employment (6.1%, N=4) or both SSDI and employment (6.1%, N=4). A few received either SSI or SSDI, but did not know which one for certain (6.1%, N=4). One received both SSI and SSDI (1.5%). Others preferred not to share their income information (3, N=4.5%). Five had other sources of income than the ones listed, 7.6% (N=5), and the rest contained missing income data (6.1%, N=4).
In regard to disability status, 60.6% \((N=40)\) identified themselves as having paraplegia, 10.6% \((N=7)\) had quadriplegia, 9.1% \((N=6)\) had no paralysis, 7.6% \((N=5)\) preferred not to share, 4.5% \((N=4)\) did not know, and 7.6% \((N=5)\) had missing data. About half, 48.5%, self-reported that their disability was caused by SCI \((N=32)\), although the percentage of participants who have SCI may be higher. About 10.6% \((N=7)\) indicated that the cause of their disability was a “gun shot,” it is speculated that many of these wounds resulted in spinal cord injury. Thus, the percentage of individuals with SCI in the sample may be as high as 59%. Motor vehicle accident was another frequently cited cause, 12.1% \((N=8)\) reported that this caused their injury. Other causes to participants’ disability included stroke, \((7.6\%, \ N=5)\), amputation \((4.5\%, \ N=3)\), brain injury (BI; \(3.0\%, \ N=2)\), both BI and SCI \((1.5\%, \ N=1)\). One person preferred not to share \((1.5\%, \ N=1)\) and others had missing data \((4.3\%, \ N=3)\). The type of injury was unclear for four participants \((6.1\%, \ N=4)\); specifically, participants reported that their injury was due to “CHF,” “botched hip replacement surgery,” “premature birth,” and “not walk.” On average, participants have had their disability for 13.1 years \((SD=9.4)\).

**Scale Properties and Internal Consistency**

Means, standard deviations, Cronbach’s, and Pearson’s correlations among the variables are shown in Table 1. Cronbach’s or internal consistency of the disability identity dimensions were poor to mediocre. Reliabilities for centrality, private regard, public regard were \(.64, .70, .70\), respectively. MOS-SSS reliabilities were as strong as those observed in previous studies (Sherbourne & Stewart, 1991), \(.93\) for the overall scale. Cronbach’s for tangible support,
Table 1.
Means, standard deviations, intercorrelations among study variables.

<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Centrality</td>
<td>3.93</td>
<td>1.04</td>
<td>(.64)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Private Regard (Pr-R)</td>
<td>4.69</td>
<td>1.21</td>
<td>.36**</td>
<td>(.70)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Public Regard (Pu-R)</td>
<td>3.79</td>
<td>1.10</td>
<td>-.07</td>
<td>-.03</td>
<td>(.70)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. General Social Support (GSS)</td>
<td>3.90</td>
<td>0.73</td>
<td>-.02</td>
<td>.24</td>
<td>.09</td>
<td>(.93)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Informational Social Support-Disability (ISS-D)</td>
<td>3.35</td>
<td>1.32</td>
<td>.22</td>
<td>.33**</td>
<td>-0.08</td>
<td>.37**</td>
<td>(.95)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Guidance-Disability (G-D)</td>
<td>3.31</td>
<td>1.37</td>
<td>.26*</td>
<td>.43**</td>
<td>-0.07</td>
<td>.39**</td>
<td>.87**</td>
<td>(.96)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Practical Support-Disability (PS-D)</td>
<td>3.21</td>
<td>1.25</td>
<td>.10</td>
<td>.30*</td>
<td>-.14</td>
<td>.35**</td>
<td>.80**</td>
<td>.80**</td>
<td>( .92)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Distress</td>
<td>1.87</td>
<td>0.78</td>
<td>.30*</td>
<td>-.10</td>
<td>.08</td>
<td>-.22</td>
<td>.21</td>
<td>.18</td>
<td>.11</td>
<td>(.86)</td>
<td></td>
</tr>
<tr>
<td>9. General Health</td>
<td>3.55</td>
<td>0.58</td>
<td>-.04</td>
<td>.24</td>
<td>-.04</td>
<td>.44**</td>
<td>.04</td>
<td>.11</td>
<td>.18</td>
<td>-.49**</td>
<td>(.90)</td>
</tr>
<tr>
<td>10. Secondary Conditions</td>
<td>3.18</td>
<td>1.61</td>
<td>.18</td>
<td>-.01</td>
<td>-.01</td>
<td>-.21</td>
<td>.05</td>
<td>.04</td>
<td>.04</td>
<td>.38**</td>
<td>-.35**</td>
</tr>
</tbody>
</table>

*Note: Internal consistency reliabilities, when applicable, are in parentheses. **Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed).
affection, emotional/informational, and positive interaction were .87, .93, .90, and .89, respectively. Internal consistency for the three disability-specific support scales were very high, suggesting some redundancy in the items. Cronbach’s for ISS-D, G-D, and PSS-D were .95, .96, and .92, respectively. Internal consistency of the two outcomes were strong, .86 and .90 for distress and general health, respectively.

To explore the utility of the general social support scale for people with disabilities and because it is the primary theoretical independent variable in this study, a factor analysis was conducted on the MOS-SSS. Findings are indicative of its validity for the people who have disabilities. The same factors emerged and the same items fell on each of the factors. One item, “Someone to have a good time with,” fell on both the affection and positive interaction factors and was deleted from further analyses (method of extraction was principal axis factoring with Promax rotation). Exploratory factor analysis was conducted on the other 18 MOS-SSS items. Principal axis factoring with Promax rotation method was used and four factors emerged as suggested by the four eigenvalues that were greater than 1. All items fell into the same factor as those suggested by Sherbourne and Stewart (1991). However, the one item that the authors omitted due to double loading—“Someone to do things with to help you get your mind off things”—fell onto the fourth factor here (i.e., positive social interaction) and used in final analyses. The first factor, emotional/informational support, accounted for 45.87% of the variance in the data, tangible support for 11.78% of the variance, affectionate support for 9.64% of the variance, and positive social interaction for
6.61% of the variance. These 18 items were used in analyses for general social support (see Table 2).

**Preliminary Analyses**

Centrality was significantly weakly to moderately related to private regard, \( r(64) = .36, p < .01 \). There were no other significant relationships among the three identity dimensions. Private regard had the most consistent relationship with disability-specific social support in that it was significantly weakly to moderately related to all three, \( r = .33 \) with ISS-D, \( r = .43 \) G-D, and \( r = .30 \) with PS-D. Private regard’s relationship with general social support was only weakly marginally significant \( (r = .24, p = .054) \). General social support (i.e., MOS-SSS) was the best predictor of general health. Findings suggested a significant moderate relationship, \( r(64) = .44, p < .001 \). General health was inversely moderately related to non-specific psychological distress (i.e., Kessler-6), \( r(64) = -.49, p < .001 \). The strongest bivariate relationships were among the three disability-specific social support scales, which were all above .80. Refer to Table 1 for more specifics on correlations among the variables.

In order to assess the degree to which the variables of interest contributed to general health, a hierarchical multiple regression analysis was conducted. In the first step, age and gender \((0=\text{female}, 1=\text{male})\) were entered. In the second step, ethnic/racial status was entered \((0=\text{White/Caucasian}, 1=\text{racial/ethnic minority})\). The third step contained number of years since disability. General social support was entered in the fourth step. The three identity scales were entered in the fifth step. In the sixth step were the three disability-specific informational support
Table 2.
Exploratory factor analysis for general social support (MOS-SSS).

<table>
<thead>
<tr>
<th>Items</th>
<th>Emotional Support</th>
<th>Tangible Support</th>
<th>Affectionate Support</th>
<th>Positive Social Interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Someone to share your most private worries and fears with</td>
<td>.835</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Someone to turn to for suggestions about how to deal with a personal problem</td>
<td>.796</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Someone to confide in or talk to about yourself or your problems</td>
<td>.729</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Someone you can count on to listen to you when you need to talk.</td>
<td>.726</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Someone whose advice you really want</td>
<td>.695</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Someone to give you information to help you understand a situation.</td>
<td>.670</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Someone to give you good advice about a crisis.</td>
<td>.629</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Someone who understands your problems</td>
<td>.623</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Someone to prepare your meals if you were unable to do it yourself</td>
<td></td>
<td>1.032</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Someone to help with daily chores if you were sick</td>
<td></td>
<td>.812</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Someone to help you if you were confined to bed</td>
<td></td>
<td>.636</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Someone to take you to the doctor if you needed it</td>
<td></td>
<td>.510</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Someone to love and make you feel wanted</td>
<td></td>
<td></td>
<td>.854</td>
<td></td>
</tr>
<tr>
<td>Someone who hugs you</td>
<td></td>
<td></td>
<td>.847</td>
<td></td>
</tr>
<tr>
<td>Someone who shows you love and affection</td>
<td></td>
<td></td>
<td></td>
<td>.734</td>
</tr>
<tr>
<td>Someone to get together with for relaxation</td>
<td></td>
<td></td>
<td></td>
<td>.814</td>
</tr>
<tr>
<td>Someone to do something enjoyable with</td>
<td></td>
<td></td>
<td></td>
<td>.812</td>
</tr>
<tr>
<td>Someone to do things with to help you get your mind off things.</td>
<td></td>
<td></td>
<td></td>
<td>.718</td>
</tr>
</tbody>
</table>

Note: Factor loadings below .4 are not shown.
variables. Only general social support significantly contributed to general health. Regression results are shown in Table 3. The same analysis was conducted for non-specific psychological distress but no significant models were found.

The only significant identity-health bivariate relationship found was that between centrality and non-specific psychological distress. Private regard and general health were marginally weakly related ($r$=.24, $p$=.058). Thus, mediation models were examined only for these two variables, entering social support variables in the role of mediator. No significant mediation effects were found.

Table 3. Regression predicting general health.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
<th>Step 5</th>
<th>Step 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-.010</td>
<td>-.010</td>
<td>-.010</td>
<td>-.007</td>
<td>-.006</td>
<td>-.004</td>
</tr>
<tr>
<td>Gender</td>
<td>-.035</td>
<td>-.058</td>
<td>-.056</td>
<td>.046</td>
<td>.054</td>
<td>.154</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td>-.178</td>
<td>-.178</td>
<td>-.092</td>
<td>-.030</td>
<td>-.037</td>
<td></td>
</tr>
<tr>
<td>Duration</td>
<td>.000</td>
<td>.002</td>
<td>-.001</td>
<td>-.003</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GSS</td>
<td>.341**</td>
<td>.326**</td>
<td>.349**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centrality</td>
<td>-.010</td>
<td>.023</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Regard</td>
<td>.060</td>
<td>.098</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private Regard</td>
<td>-.060</td>
<td>-.048</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISS-D</td>
<td>-.186</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G-D</td>
<td>-.053</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PS-D</td>
<td>.160</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td>.037</td>
<td>.056</td>
<td>.056</td>
<td>.211</td>
<td>.236</td>
<td>.306</td>
</tr>
<tr>
<td>$F$</td>
<td>1.146</td>
<td>1.136</td>
<td>.838</td>
<td>2.998*</td>
<td>2.046</td>
<td>2.009*</td>
</tr>
<tr>
<td>$\Delta R^2$</td>
<td>.037</td>
<td>.018</td>
<td>.000</td>
<td>.156**</td>
<td>.025</td>
<td>.070</td>
</tr>
</tbody>
</table>

*Note.* Duration refers to duration of disability (i.e., number of years since injury). Variable values above are standardized regression weights, $\beta$. $*p<.05. **p<.01$

**Social Support as a Moderator**

Sherbourne and Stewart (1991) suggested that MOS-SSS subscales be assessed separately as they are likely comprised of multiple dimensions. With each of the four social support variables in the role of moderator, various moderating models were assessed on the relationship between the three identity
dimensions and the two health outcomes (i.e., general health and non-specific psychological distress). No main or interaction effects were found.

As previously mentioned, scholars have suggested that in order to find effects on social support, the type of support must be specific and relevant to the outcome in question. Therefore, each of the three identity dimensions were regressed on each of the general health subscales (i.e., general health, role limitations due to physical health, energy/fatigue, social functioning, pain, positive affect) at various levels of social support subscales (i.e., emotional, tangible, affectionate, positive social interaction, ISS-D, G-D, and PSS-D).

Hierarchical regression analyses were conducted to test for moderation effects. One model was found significant; specifically, the relationship among private regard, social functioning \((M=3.70, SD=0.91)\), and ISS-D. First, each predictor was centered by subtracting the mean of each variable from participants’ scores. Three models were regressed on social functioning. The first model contained private regard, the second contained private regard and ISS-D and the third model contained private regard, ISS-D, and the interaction term. Only the third model was found significant, \(F(3,62)=3.49, p=.021\). The interaction term significantly impacted social functioning above and beyond private regard and ISS-D, \(\Delta R^2 = .11, F(3, 62) = 8.24, p = .006\); that is, the interaction of private regard x ISS-D significantly predicted social functioning after controlling for the effects of private regard and informational social support-disability, \(\beta=.19, p=.006\). Although there were no main effects found for ISS-D or private regard \((\beta=-.03, p=.739 \text{ and } \beta=.11, p=.267, \text{ respectively})\), the significant interaction
indicated that the relationship between private regard and social functioning was impacted by level of ISS-D. Following Holmbeck’s (2002) recommendations, to assess and illustrate this interaction, separate regression lines were plotted on ISS-D for participants with high (1 SD above the mean) versus low levels (1 SD below the mean). Simple slopes for the relationship between private regard and social functioning at high and low levels of social support were calculated by hand and confirmed using Interaction statistical software (Soper, n.d.). The regression line for private regard and social functioning was significantly positive for those with high ISS-D, $b=.35, p=.005$. The relationship between private regard and social functioning was not significant for those with low levels of ISS-D, $b=-.14, p=.284$ (see Figure 2 for an illustration of the moderation model).

Finally, analyses were conducted placing non-specific psychological distress in the role of moderator, no interaction effects were found to significantly predict health outcomes.

![Figure 2](image-url)

Figure 2. Private regard and social functioning significantly positively related only for people receiving high levels of informational social support from others who have a disability. *non-significant.**p<.01.
Discussion

The purpose of this study was to illuminate possible linkages among disability identity, social support, and health. Of specific concern was the influence of identity and the social support one might receive as a function of that identity on the health of people with acquired (as opposed to congenital disabilities). To date, only a few studies have examined the effects of group identity and social support among such individuals and findings are mixed regarding the question of whether there exists a positive association between minority group identity and health. Similarly, the relationship between social support and its influence on health do not consistently relate, as one might expect. Although having a strong minority group identity has been linked to positive psychological functioning (Branscombe, Schmitt, & Harvey, 1999; Sellers et al., 2006), and lower levels of dysfunctional behavior such as substance use (Stock et al., 2011), being strongly identified on race can also lead to reduced compliance in health-promotive behaviors such as exercising and eating healthily (Oyserman, Yoder, & Fryberg, 2007). In the current research, it was predicted that the relationship between identity, as measured by the adapted disability identity scale, and health would vary as a function of the degree of social support provided. This prediction was partially supported. First, no moderating effect of identity and social support were found on general health (i.e., using relevant items from MOS SF-36) or complications arising from disability, but an effect was found for a specific component of health—social functioning. Second, only disability-specific social support interacted with identity to account for health, but not for general
social support. Third, not all identity dimensions were equally predictive of social functioning. Only private regard had a significant effect.

Finding that only social functioning was influenced by the identity and social support interaction maintains what social support advocates have said about its role on health, and that is, significant effects are only found when the outcome aligns with the support provided. For example, Tay, Diener, and Gonzales (2013) found that general measures of support were related to physical activity, but not healthy eating. Results sustain this claim in that the level of specificity emerged not only for health but also for social support. Here, effects were found only for social functioning and only when the support was received from others who also had a disability. These findings make logical sense in that social support is a relational construct and when it is received, it affects relationship-related outcomes. Social functioning—in this case, the degree to which social activities are affected by one’s physical and emotional problems—is dependent on one’s relationship with others.

It was particularly interesting to find that the *source* of support was as important as the *type* of support, in essence suggesting that structural support and functional support are both relevant to health. Findings indicate that not only is informational social support important (i.e., the functional component), but so is the source of the support (i.e., the structural component). Thus, for a population that may be defined by their minority group membership *social support from whom* is an important predictor of health. Data suggests that social support from *within* group members is pertinent. However, whether source of support is only
relevant for individuals who are members of a minority group remains a critical empirical question.

This study makes an important contribution to literature in that it adapted a racial identity scale to look at populations with acquired disability. As noted previously, findings generalize only to those who have acquired rather than congenital disability. A distinction was made between the two disability groups because those who are born with a congenital disability have the opportunity to gradually develop disability identity over time, whereas individuals with acquired disability may be thrown into their new group membership suddenly and as an adult. Therefore, the salience of disability membership to one’s overall self-identity may differ between the two groups. Assessing the difference in the development of disability identity between the two groups is beyond the scope of this study, yet is an important question for future research. The current study also makes empirical contribution on social support in that another group level construct—disability identity—was linked to the social support and health relationship. Identity may serve as a potential antecedent to support or vice versa—support may serve as an important antecedent to positive disability identification. Together, findings suggest that they account for well-being among people with disabilities.

Another important finding regarding identity is that neither centrality of disability nor public regard, in terms of how others see the disability community, accounted for health. Here it was found that centrality was weakly related to psychological distress. One explanation is that people who have high centrality
are more aware of the challenges that people who have disabilities face and consequently, experience greater distress from this consciousness. They may also be more vigilant about discrimination towards people with disabilities. Indeed, Sellers and colleagues (2006) found that ethnic minorities who had higher levels of centrality and public regard were more likely to report experiencing racial discrimination. Thus, a third variable may explain this relationship between centrality and distress in that people who have a strong sense of belonging to the disability community may be more attentive to discriminatory acts towards them and are more observant at detecting them when they occur. Consequently, they may experience greater distress from these interactions.

In addition, support for the moderational model was found only with private regard. It is speculated that this could be because private regard may be the best identity dimension at forecasting whether someone will seek the company of others who have disabilities, and therefore garner greater support from them. On average, the current sample had a neutral to positive view of the disability community based on their private regard score. In other words, it was the best and only predictor of social support from others who have a disability, suggesting that positive private regard may encourage greater interaction with individuals in the disability community.

It should be noted that sample means were a little lower than midpoint (neutral) on centrality, indicating that those surveyed did not necessarily view themselves as belonging to the disability community. One reason may be due to the acquired disability. Among participants, the average age in which disability
was acquired was 25 years old. Self-identity may be stable at this point in one’s adulthood and introducing a new dimension of identity to the self is more difficult, especially when that dimension is a stigmatized one. There was also a high percentage of participants who were racial minorities. It is possible that participants’ racial status was the strongest driver of their identity rather than their disability. Sellers and colleagues did suggest that identity is not only hierarchically-based but also that one’s racial identity is the most overriding indicator of one’s self-identity (Sellers, Smith, Shelton, Rowley, & Chavous, 1998). Because participants had acquired disabilities their disability identity may not be a central indicator of their overall identity (i.e., lower on the identity hierarchy) as opposed to race.

The correlation between private regard and disability-specific social support, and the lack thereof between centrality and disability-specific social support, indicates that one does not necessarily need to strongly identify with one’s disability but must view the group positively in order to be encouraged to spend time with group members. The null relationship between the other dimensions of identity (i.e., centrality and public regard) and social support might also be suggestive of the effect of gender on gained social support. The sample consisted of predominantly male, who may be less likely to take the initiative to develop and maintain social relationships with others. This could explain the null to weak relationships between the various identity dimensions and social support. With a greater number of females in the sample, statistically stronger associations might have emerged.
In assessing whether the adapted disability identity scale used presently is a valid one, it is safe to suggest that it shows promise. First, there is evidence of discriminant validity. Since the subscales represent distinct dimensions of identity, the three dimensions were found uncorrelated to only weakly associated with one another, as they should be. Second, there is decent internal consistency among the items and values are similar to those found by Sellers and colleagues (2006) on racial identity. This indicates that the items are indeed tapping into the same construct. However, it is worth noting that the dimensions need further refinement. Analysis of item statistics indicate that internal consistency of the centrality dimension can be further improved (from .64 to .66) by the removal of the item, “My disability is not important to my sense of what kind of a person I am.” In addition, the public regard internal consistency could also improve (from .70 to .73) by eliminating the item, “Most people consider people with disabilities, on the average, to be more ineffective than other minority groups.” Both of these items are negatively worded and the latter item is slightly wordy, which may have resulted in confusion and in an increase in item variance. These consequently resulted in lower alphas. Nevertheless, there is predictive validity evidence in finding the significant moderation model between private regard, social support, and health. However, assessment of convergent validity was not possible because there were no other disability identity scales found to which the one used here could be compared.
Implications

Data indicate that individuals who have the most positive views toward the disability community (private regard) tend to have healthier social functioning when they receive high levels of support from this community. The positive relationship between health and social functioning does not hold true for people who have low disability-specific social support. However, the “social functioning” construct must be interpreted with caution. Due to the nature of the question, there are two ways to interpret this outcome; individuals who have high regard and receive high levels of support are either healthier and therefore have fewer limitations from social activities or they may not necessarily be healthier but are less likely to allow physical or emotional problems to interfere with social activities. Future investigations might make a clear distinction between the two indicators of health.

Regression findings indicated that, controlling for gender, age, minority status, and duration of disability in years, general social support was the only variable that accounted for health. This finding, in conjunction with the moderating role that disability-specific social support plays in the identity-social functioning relationship, is indicative of the importance of social support on health of people who acquire disabilities. However, findings bring forth further questions regarding the role of identity on social support and when provisions of support is helpful and not. Is private regard an indicator of the degree to which one might welcome support when it is offered? As mentioned, social support is particularly facilitative of health for individuals with acquired physical disability.
when it comes (1) from others who have the same experiences (such as a peer mentor with a disability) and (2) when the target of support (i.e., the disabled individual) views the source of support positively. Alternatively, one might interpret the pattern of results as indicating that poorer functioning occurs when individuals receive high social support from a group towards whom they have negative views. Based on means alone, those who do not view the disability community positively and do not receive support from others in the community seem to function almost as well as those who have high regard and receive high support. Altogether this suggests that in order to encourage healthier functioning among people with disabilities, desire for support might also need to be addressed. Although simplistic, Table 4 might more clearly illustrate instances in which social support may be most promotive of health.

Table 4.

<table>
<thead>
<tr>
<th>Private Regard</th>
<th>Need for Social Support</th>
<th>Received</th>
<th>Not Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive (welcomes support)</td>
<td>Met SS</td>
<td>Healthy SF</td>
<td>Unmet SS</td>
</tr>
<tr>
<td>Negative (avoids support)</td>
<td>Unwanted SS</td>
<td>Unhealthy SF</td>
<td>Detached</td>
</tr>
</tbody>
</table>

Note. SS=social support. SF=social functioning.

This conclusion aligns with previous findings on the importance of aligning provision of social support with the desire of its recipient. Reynolds and Perrin (2004) found that among breast cancer survivors, those who received
unwanted support fared worse on psychosocial functioning than those who did not receive unwanted support.

**Practical applications.** People tend to allow their own disability to limit their contact with the outside world immediately after their injury for several reasons, including lack of knowledge about how to live with one’s disability, lack of knowledge about available community resources, emotional difficulties, physical challenges, and living in a structurally inaccessible environment. However, in order for people with newly acquired injuries to fully and healthily recover, they must nevertheless learn how to manage the disability and function to their fullest capacity. Findings in this study have some implications on programs that promote community integration among people who have disabilities through social support based models like peer mentorship programs or community health worker interventions. The purpose of these programs is to facilitate patient recovery for those with newly acquired injuries by pairing them with an experienced ally with a similar disability. In essence, peer mentors and community health workers provide informational social support by demonstrating the ways to navigate through the physical, emotional, and community integration challenges that a new disability presents. In extending findings from this study, one might suggest that the participants who will function best in these types of interventions are those who have accepted their disability status and have learned to view the disability community in a positive light. Provisions of services to those who view people with disabilities negatively might have the opposite effect.
Limitations

As with all non-experimental survey research, there is no way to definitively conclude which factor—disability-specific social support or private regard—serves in the role of moderator. An alternative interpretation of the model is that private regard moderates the relationship between social support and social functioning. Such a conclusion would imply that receiving support from the disability community is associated with poorer social functioning for those who have negative private regard towards the disability community. Nonetheless, this alternative explanation essentially supports a similar conclusion, that providing services to individuals who view the source of those services negatively might result in poorer rather than better health.

Another limitation to this study was the sampling methodology; in order to recruit and reach as many participants as possible, a snowball method was necessary. Generalizability of findings to populations with disability is limited. It is unlikely that participants in this study reflect characteristics of the overall population of individuals with acquired physical disability. First, a large proportion of participants in this study identified as racial minorities, classifying them as “double minorities.” Second, some recruitment took place at an adaptive sporting event, an adaptive gym, at a community meeting for people who have disability in addition to a rehabilitation hospital; therefore, the current sample may have an overrepresentation of individuals who have relatively high levels of community integration. Future studies might replicate to determine the utility of the model for those who are non-integrated. However, recruitment might prove
difficult because (by definition) non-integrated populations are less likely to venture out of their homes. Perhaps other collection methods may be utilized in these cases such as phone interviewing or social media. Online surveys is another option, but since disability is frequently compounded by low income (perhaps due to unemployment), many individuals with disabilities may also lack access to internet. Third, there was a relatively high proportion of participants with spinal cord injuries, and thus, individuals who had other types of physical disabilities were underrepresented.

**Future Directions**

Despite the limitations, the current findings do provide improved insight on the operationalization of disability identity and its effects on health among people with acquired physical disability. There have been few studies on health promotion for people with disabilities and not many scholars have attempted to quantify constructs that affect this group. Psychometric properties of the disability identity scale used here are similar to those found by Sellers and colleagues (2006). Internal consistency for centrality, private regard, and public regard were fair but could improve closer to the .8 common standard of scale reliability.\(^2\) In regard to disability-specific social support, the strong relationships among the various dimensions support the construct validity of the scales that were used. In addition, the scales’ weak correlation with general social support suggests that disability-specific social support is a distinct construct from general social support; thus, these scales display good discriminant validity. However, overly

\(^2\) Streiner (2003) suggests the standard of .80 for a scale’s internal consistency in basic research. However, the author also suggests that a value of .90 contains redundant items.
high internal consistency values might indicate that the scale needs further refinement from redundant items. Future research might also investigate whether other types of support (e.g., disability-specific tangible social support) accounts for well-being.

Physical functioning is another and perhaps more important factor on social functioning than disability type that would be worth examining in future research. It is a useful indicator of functional independence and may have an overriding influence on social functioning or social activity than any other predictors assessed here. For example, those who have high-level spinal cord injury such as people with quadriplegia are dependent on others for transportation, whereas many individuals with paraplegia are able to drive with adaptive controls. Therefore, the freedom for socialization and the option to socialize vary greatly based on the body’s functionality. In addition to assessing disability type (paraplegia, quadriplegia, no paralysis) future research might make use of a more objective and sensitive measure of physical functionality such as the Functional Independence Measure in order to more accurately account for health, or use such as measure as the health criterion itself.

In addition, this study makes important contributions to the literature on physical disability. First, it was found that racial identity theory may indeed apply to disability, as both concepts are a function of targets’ social minority status. The adapted disability identity dimensions and their internal consistency performed as well as the racial identity scale that were previously used by other scholars. The disability identity scale used here serves as a good start in
operationalizing this construct. One might examine the degree of association between a newly developed disability identity scale and the one used here. It is worth including a stage-based scale in conjunction with the descriptive dimensional scale used here. For example, one might adapt the Cross Racial Identity Scale in order to capture identity developmental transitions as the individual learns to navigate life with a disability. One may gain insight on the evolution of identity by examining its association with duration of disability. Findings of from such an inquiry would be suggestive of how disability identity develops over time.

Finally, another important contribution to the disability literature gained from this study is that it highlights the importance of social support on health promotion for those who have physical disabilities. Current findings reveal some thought-provoking implications on when identity is most relevant to health, by signifying that the receiver should view the provider of support in a positive manner in order to reap the benefits out of its provision. Because disability is a stigmatized characteristic, not all individuals who have a disability will identify with this group membership and may even distance from it. When support of help originates from an unattractive source, there may be some unintended adverse effects. Alternatively, when the source comes from someone who is revered, optimal health effects are more likely to manifest. As is the case with most studies in psychology, the observed health effect depends on multiple factors. Nevertheless, this study provides some insight on a few important psychological
variables that should be included in future investigations on the well-being of individuals with disability.
References


http://www.pewstates.org/uploadedFiles/PCS_Assets/2008/one%20in%20100.pdf


Appendix A

Disability Identity Measures

Directions: Please mark how much you agree with each statement (1=strongly disagree to 7=strongly agree).

Centrality Scale

1. Overall, my disability has very little to do with how I feel about myself. (R)
2. In general, my disability is an important part of my self-image.
3. My destiny is tied to the destiny of other people with disabilities.
4. My disability is not important to my sense of what kind of person I am. (R)
5. I have a strong sense of belonging to the disability community.
6. I have a strong attachment to other people with disabilities.
7. My disability is an important reflection of who I am.
8. My disability is not a major factor in my social relationships. (R)

Regard Scale

Private Regard Subscale
1. I feel good about other people with disabilities.
2. I am happy that I am a person with a disability.
3. I feel that people with disabilities have made major accomplishments and advancements.
4. I often regret that I have a disability. (R)
5. I am proud to be a person with a disability.
6. I feel that the disability community has made valuable contributions to this society.

Public Regard Subscale
1. Overall, people with disabilities are considered good by others.
2. In general, others respect people with disabilities.
3. Most people consider people with disabilities, on the average, to be more ineffective than other minority groups. (R)
4. People with disabilities are not respected by the broader society. (R)
5. In general, other groups view people with disabilities in a positive manner.
6. Society views people with disabilities as valuable.
Appendix B
Social Support Measures

Medical Outcomes Study-Social Support Scale

People sometimes look to others for companionship, assistance, or other types of support. How often is each of the following kinds of support available to you if you need it? Circle one number on each line. (1=none of the time, 2=a little of the time, 3=some of the time, 4=most of the time, 5=all of the time)

Emotional/Informational Support
1. Someone you can count on to listen to you when you need to talk.
2. Someone to give you information to help you understand a situation.
3. Someone to give you good advice about a crisis.
4. Someone to confide in or talk to about yourself or your problems
5. Someone whose advice you really want
6. Someone to share your most private worries and fears with
7. Someone to turn to for suggestions about how to deal with a personal problem
8. Someone who understands your problems

Tangible Support
1. Someone to help you if you were confined to bed
2. Someone to take you to the doctor if you needed it
3. Someone to prepare your meals if you were unable to do it yourself
4. Someone to help with daily chores if you were sick

Affectionate Support
1. Someone who shows you love and affection
2. Someone to love and make you feel wanted
3. Someone who hugs you

Positive Social Interaction
1. Someone to have a good time with
2. Someone to get together with for relaxation
3. Someone to do something enjoyable with

Additional MOS-SSS Item
1. Someone to do things with to help you get your mind off things

Adapted Disability-Specific MOS-SSS Items

Informational Support
1. Someone who has a disability to give you information to help you understand a situation.
2. Someone who has a disability to give you good advice about a disability-related crisis.
3. Someone who has a disability to turn to for suggestions about how to deal with a personal problem.
4. Someone who has a disability and understands your problems

**Adapted Disability-Specific Social Provisions Scale Items**

**Guidance Subscale**

1. There is someone with a disability I can turn to for guidance in times of stress.
2. There is someone with a disability I could talk to about important decisions in my life.
3. There is a trustworthy person who has a disability I could turn to for advice about disability issues.
4. There is someone with a disability I feel comfortable talking about problems with.

**Other Informational Support Items**

1. How many friends do you who also have a disability? ___
2. There is a friend with a disability that encourages me to visit my primary care doctor. (1=strongly disagree to 5=strongly agree; I do not have a primary care doctor)
3. There is someone with a disability that encourages me to do pressure checks.
4. There is someone with a disability I can talk to for advice about transportation issues.
5. There is someone with a disability I can talk to for advice about wheelchair problems.
6. There is someone with a disability I can talk to for advice about my sex life.
7. There is someone with a disability I can talk to for advice about my Supplemental Security Income (SSI) or Social Security Disability Insurance (SSDI). [n/a; 1=none of the time, 2=a little of the time, 3=some of the time, 4=most of the time, 5=all of the time]
Appendix C

Health Indicators

General Health (MOS SF-36)
1. In general, how would you say your health is? (1=excellent, 2=very good, 3=good, 4=fair, 5=poor)
2. I seem to get sick a little easier than other people. (1=definitely true, 2=mostly true, 3=don’t know, 4=mostly false, 5=definitely false)
3. I am as healthy as anybody I know. (1=definitely true, 2=mostly true, 3=don’t know, 4=mostly false, 5=definitely false)
4. I expect my health to get worse. (1=definitely true, 2=mostly true, 3=don’t know, 4=mostly false, 5=definitely false)
5. My health is excellent. (1=definitely true, 2=mostly true, 3=don’t know, 4=mostly false, 5=definitely false)

Role limitations due to physical health (1-4) and Emotional Health (5-7)
During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health? (Response options for 1-7: 1=definitely true, 2=mostly true, 3=don’t know, 4=mostly false, 5=definitely false)
1. Cut down the amount of time you spent on work or other activities.
2. Accomplished less than you would like.
3. Were limited in the kind of work you could do or activities with others.
4. Had difficulty performing the work or other activities.
5. Cut down the amount of time you spent on work or other activities.
6. Accomplished less than you would like.
7. Didn’t do work or other activities as carefully as usual. (due to emotional health)

Energy/Fatigue (1=none of the time, 2=a little of the time, 3=some of the time, 4=most of the time, 5=all of the time)
1. Did you feel full of pep?
2. Did you have a lot of energy?
3. Did you feel worn out?
4. Did you feel tired?

Social functioning
1. During the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors, or groups? (1=not at all, 2=slightly, 3=moderately, 4=quite a bit, 5=extremely)
2. During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives, etc.)? (1=none of the time, 2=a little of the time, 3=some of the time, 4=most of the time, 5=all of the time)

Pain
1. How much bodily pain have you had during the past 4 weeks? (1=none, 2=mild, 3=moderate, 4=severe, 5=very severe)
2. **During the past 4 weeks**, how much did pain interfere with your normal work (including both work outside the home and housework)? (1=not at all, 2=a little bit, 3=moderately, 4=quite a bit, 5=extremely)

**General Health**
1. In general, would you say your health is: (1=very good, 2=very good, 3=good, 4=fair, 5=poor)
2. I seem to get sick a little easier than other people. (1=definitely true, 2=mostly true, 3=don’t know, 4=mostly false, 5=definitely false)
3. I am as healthy as anybody I know. (1=definitely true, 2=mostly true, 3=don’t know, 4=mostly false, 5=definitely false)
4. I expect my health to get worse. (1=definitely true, 2=mostly true, 3=don’t know, 4=mostly false, 5=definitely false)
5. My health is excellent. (1=definitely true, 2=mostly true, 3=don’t know, 4=mostly false, 5=definitely false)

**Mental Health**

Description: These questions are about how you feel and how things have been with you during the past month. For each question, please circle a number for the one answer that comes closest to the way you have been feeling.

**Kessler-6: Non-specific Psychological Distress**
The following questions ask about how you have been feeling during the past 30 days. For each question, please circle the number that best describes how often you had this feeling.

About how often (1=none of the time, 2=a little of the time, 3=some of the time, 4=most of the time, 5=all of the time) during the past 30 days did you feel …

1. Nervous?
2. Hopeless?
3. Restless or fidgety?
4. So depressed that nothing could cheer you up?
5. That everything was an effort?
6. Worthless?

**Emotional well-being** (1=none of the time, 2=a little of the time, 3=some of the time, 4=most of the time, 5=all of the time)

1. Have you been a very nervous person?
2. Have you felt so down in the dumps that nothing could cheer you up?
3. Have you felt calm and peaceful?
4. Have you felt downhearted and blue?
5. Have you been a happy person?

**Positive Affect** (MOS HEALTH-RELATED QUALITY OF LIFE)

1. How happy, satisfied, or pleased have you been with your personal life during the past month? (1=extremely happy, could not have been more satisfied or
pleased, 2=very happy most of the time, 3=generally satisfied, pleased, 
4=generally dissatisfied, unhappy, 5=very dissatisfied, unhappy most of 
the time)
2. During the past month, how much of the time have you generally enjoyed the 
things you do? (1=none of the time, 2=a little of the time, 3=some of the 
time, 4=most of the time, 5=all of the time)
3. How much of the time, during the past month, has your daily life been full of 
things that were interesting to you? (none of the time to all of the time)
4. During the past month, how much of the time has living been a wonderful 
adventure for you? (none of the time to all of the time)
5. How much of the time, during the past month, have you felt cheerful, 
lighthearted? (none of the time to all of the time)

**Physical Health: Secondary Conditions**

Below, please check conditions you have experienced in the past 12 months as a 
result of your primary impairment. For conditions you experienced, please mark 
how big of a problem it was.

<table>
<thead>
<tr>
<th>Chronic pain in muscles or joints? □ Yes □ No</th>
</tr>
</thead>
<tbody>
<tr>
<td>If YES, how big of a problem was it? (circle a number)</td>
</tr>
<tr>
<td>Not problematic</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sleep problems? □ Yes □ No</th>
</tr>
</thead>
<tbody>
<tr>
<td>If YES, how big of a problem was it? (circle a number)</td>
</tr>
<tr>
<td>Not problematic</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weight or eating problems? □ Yes □ No</th>
</tr>
</thead>
<tbody>
<tr>
<td>If YES, how big of a problem was it? (circle a number)</td>
</tr>
<tr>
<td>Not problematic</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skin problems (including pressure sores or pressure ulcers)? □ Yes □ No</th>
</tr>
</thead>
<tbody>
<tr>
<td>If YES, how big of a problem was it? (circle a number)</td>
</tr>
<tr>
<td>Not problematic</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Muscle spasms? □ Yes □ No</th>
</tr>
</thead>
<tbody>
<tr>
<td>If YES, how big of a problem was it? (circle a number)</td>
</tr>
<tr>
<td>Not problematic</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bowel/bladder problems? □ Yes □ No</th>
</tr>
</thead>
<tbody>
<tr>
<td>If YES, how big of a problem was it? (circle a number)</td>
</tr>
<tr>
<td>Not problematic</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>
Appendix D

Participant Demographics

Below are questions about you. Please by marking your responses (with a check, an X, or by circling your answers).

1. What is your gender? __ Male __ Female __ Other (Please specify: __________)
2. How old are you? ___ years
3. What is your race/ethnicity?
   __ American Indian and Alaska Native
   __ Asian
   __ Non-Hispanic Black/African American
   __ Hispanic
   __ Native Hawaiian/Other Pacific Islander
   __ Non-Hispanic White/Caucasian
   __ Some Other Race/Ethnicity (Please specify: __________)
4. What is your relational or sexual orientation?
   __ Gay
   __ Lesbian
   __ Bisexual
   __ Ambiguous
   __ Asexual
   __ Straight
   __ Other (Please specify: ______________)
5. What is your political leaning?
   __ Strong liberal
   __ Liberal
   __ Moderate, leaning towards liberal
   __ Moderate
   __ Moderate, leaning towards conservative
   __ Conservative
   __ Strong conservative
6. Was your disability acquired (that is, did it happen after birth)? __ Yes __ No
7. What type of disability do you have?
   __ Physical
   __ Sensory
   __ Cognitive
   __ Other (specify: ______)
8. Do you use a wheelchair? __ Yes __ No
9. If you have a physical disability, what type of disability is it?
   __ Quadriplegia (unable to fully use all four limbs)
   __ Paraplegia (able to use arms and hands)
   __ Don’t know
10. What is the cause of your disability (e.g., spinal cord injury, stroke, brain injury, amputation, other)? ____________________

11. In what year did the injury that resulted in your disability happen? _____

12. How many years/months have you had your disability? ___ years/___ months

13. Do you receive any source of assistance listed below? (Please check all that apply.)
   _Supplemental Security Income (SSI)
   _Social Security Disability Insurance (SSDI)
   _Medicare
   _Medicaid

14. What is your source of monthly income? _________
   _Supplemental Security Income (SSI) only
   _Social Security Disability Insurance (SSDI) only
   _Employment only
   _Both SSI and employment
   _Both SSDI and employment
   _Other (Please specify source of income if none of the above: ____________________)

15. What is your monthly income? $________

16. Which of the following best describes your family’s social class or the social class of the household in which you grew up?
   _Very economically disadvantaged (lower class)
   _Neither economically disadvantaged nor advantaged (working class)
   _Moderately advantaged (middle class)
   _Economically advantaged (upper middle class)
   _Very economically advantaged (upper class)

17. What is the highest level of education that you completed?
   _Less than high school diploma
   _High school graduate
   _Some college, but no degree
   _Associate’s degree
   _Bachelor’s degree
   _Graduate or professional degree
Appendix E

INFORMATION SHEET FOR PARTICIPATION IN RESEARCH STUDY

Disability and Health

Principal Investigator: Katherine S. Ong, M.A. (doctoral candidate)
Institution: DePaul University, USA
Faculty Advisor: Midge Wilson, PhD, College of Liberal Arts and Sciences

We are conducting a research study because we are trying to learn more about identity of people with disabilities, their affiliations with similar others, and how these influence well-being. We are asking you to be in the research because you are an adult person who identifies as having a physical disability and uses a wheelchair. If you agree to participate in this survey, you will complete a series of questions about yourself. These questions look at your thoughts about disability, your perceptions of your relationships with others, and your health. We will also collect some personal information about you such as age, gender, race, socioeconomic background, employment, and disability status. Data will be collected in person.

This study will take about 30 to 45 minutes of your time. If there is a question you do not want to answer, you may skip it. Your information will be anonymous.

Your participation is voluntary, which means you can choose not to participate. There will be no negative consequences if you decide not to participate or change your mind later after you begin the study. You can withdraw your participation at any time prior to submitting your survey. If you change your mind later while answering the survey, you may simply exit the survey. Once you submit your responses, we will be unable to remove your data later from the study because all data is anonymous and we will not know which data belongs to you.

You will be given a $10 gift card for your participation in the research even if you change your mind later after you begin the study. You must be age 18 or older to be in this study. This study is not approved for the enrollment of people under the age of 18.

If you have questions, concerns, or complaints about this study or you want to get additional information or provide input about this research, please email Kathy Ong at kong2@depaul.edu. Dr. Midge Wilson can also be reached by email (mwilson@depaul.edu) and phone (773.325.4258).

If you have questions about your rights as a research subject you may contact Susan Loess-Perez, DePaul University’s Director of Research Compliance, Office of Research Protections in the Office of Research Services at 312-362-7593 or by email at sloesspe@depaul.edu. You may also contact DePaul’s Office of Research Protections if:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team.

You may keep this information for your records.
Appendix F

Debriefing Statement

The purpose of this study was to see whether the degree to which you identify with having a disability or with the disability community is related to the support you receive from other people with disabilities and whether both of these are related to your psychological and physical health. It was predicted that identifying with one’s disability is positive because strong identification leads to helpful relationships with others in the disability community. One possible reason is that these relationships improve your knowledge about health-related behaviors; another is that other people with disabilities may also serve as a good source of emotional support. Thus, these relationships lead to improved overall physical and mental health.

If you would like more information about this study, please contact Kathy Ong (kong2@depaul.edu). Thank you for your participation. You have greatly contributed to this scientific project.