Stigma and stress

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Chapter 7
General Discussion and Conclusion

7.1. Summary of the empirical research

In ***part one*** of this dissertation I tried to explain attitudes towards sexual minority orientations in two empirical studies.

Chapter 2 was devoted to studying the relationship between educational attainment and acceptance of homosexuality by means of estimating a series of multilevel mixed effects and fixed effects models. Results of this chapter paint a nuanced picture of the effect of education on acceptance of homosexuality. A substantial part of the association between education and acceptance of homosexuality was explained by individual and family level background factors, including educational attainment, religiosity, and parental levels of acceptance of homosexuality. In addition, results from individual fixed effects models indicated that a considerable part of the association between education and acceptance of homosexuality was brought about by confounding factors at the individual level that were not measured in this study, but could feasibly include personality traits or personal experiences.

In ***Chapter 3***, I studied peer influence processes in homophobic prejudice by means of a longitudinal social network analysis. I found evidence for friends growing closer in homophobic attitudes over time. I did not find that adolescents who disliked each other developed polarizing homophobic attitudes, nor that homophobic attitudes operated as a selection criterion for the creation or maintenance of friendship or dislike relationships within the adolescent peer context.

In **part two** of this dissertation I conducted three studies in which I examined possible explanations for mental health differences between heterosexual and sexual minority individuals, as well as mental health differences between subgroups within the population of sexual minority individuals.

In ***Chapter 4***, I studied the development of differences in depressive symptoms between heterosexual, gay, lesbian, and bisexual youth from late childhood to early adulthood. I found that already in late childhood, LGB youth reported higher levels of depressive symptoms than heterosexual youth, which increased somewhat with pubertal maturation. Effects differed by gender and sexual identity, with female sexual minority youth and bisexual boys and girls reporting the highest levels of depressive symptoms. In addition, late childhood disparities in depressive symptoms were partly mediated by parental rejection and self-perceived bullying victimization. In contrast, I did not find evidence for other mediating pathways: Neither teacher-reported bullying victimization in early adolescence, nor parental rejection in early adulthood mediated the association between a sexual minority orientation and depressive symptoms.

Chapter 5 explored sexual identity differences between sexual minority individuals who identified as bisexual and those who did not and tested whether differences in sexual identity either mediated the association between a bisexual identity and lower mental health, or whether sexual identity dimensions operated as a moderator of minority stress. Whereas sexual identity was prominent for both bisexual and other-identified sexual minority individuals, I found that bisexual individuals thought less positively about their sexual identity, had more complex social identities, and that their sexual identity was less well integrated with other dimensions of their social identities compared to other sexual minority individuals. No evidence was found for sexual identity dimensions moderating the effect of minority stress on mental health. Identity valence and identity complexity were cross-sectionally associated with all three mental health indicators that I studied. When tested longitudinally, only a bi-directional association between identity valence and depressive symptoms remained.

In ***Chapter 6***, I investigated whether the peer networks of sexual minority adolescents consisted of fewer positive and more negative relationships than those of their heterosexual classmates, and whether these differences in peer networks explained elevated depressive symptoms in sexual minority youth compared to heterosexual youth. Analyses, conducted on three independent samples, did not find that the social networks of sexual minority adolescents consisted of substantially fewer positive or more negative relationships than those of their heterosexual peers, nor that the number of positive and negative peer relationships of adolescents noticeably affected depressive symptom levels.

7.2. Discussion

Understanding stigma. Research reports consistent associations between a number of sociodemographic characteristics and attitudes towards sexual minority orientations. Characteristics include gender, age, religiosity, ethnicity, political orientation, and educational attainment (e.g., Andersen & Fetner, 2008; Herek, 1988; van den Akker et al., 2013). What drives these associations? In chapters 2 and 3 of this dissertation I studied some of the mechanisms that are believed to bring about the association between education and attitudes towards sexual minority orientations. I think that continued research on more of such suggested mechanisms is one way to advance research in this field. Second, it could be fruitful to monitor the development of associations between sociodemographic characteristics and attitudes towards sexual minority orientations over time. A third way through which we can improve our understanding of the origins of stigma with regard to sexual minority orientations is an investigation of the conditions under which associations between sociodemographic characteristics and attitudes towards sexual minority orientations vary.

In chapter 3, I tested one mechanism that is thought to affect acceptance of sexual minority orientations in adolescence: peer influence. Some of the limitations of this study at the same time comprise suggestions for future research. For instance, I assumed that homophobic attitudes are salient in adolescence because of the prevalence of homophobic behavior and homophobic name-calling within the adolescent peer context (Collier, Bos, et al., 2013; Slaatten, Hetland, et al., 2015). However, rather than reflecting homophobia, adolescents might behave homophobically for more pragmatic reasons, for instance in order to acquire social status (Poteat & DiGiovanni, 2010), or by means of a joke (Slaatten et al., 2014). It could be that influence and selection take place on homophobic behavior, rather than on attitudes. Collecting data on peer networks, homophobic attitudes, but also homophobic behavior could elucidate this in future research. Moreover, it could be interesting to also include measurements of other socio-political attitudes in order to be able to test the relative salience of attitudes towards sexual minority orientations compared to other attitudes.

The influence of social media on opinion formation comprises another mechanism that could affect how people think about sexual diversity (Bakshy et al., 2015), which merits future study. For instance, it is possible that negative influence and selection processes are observed on online platforms instead of in real life, as studied in this dissertation. A reason for the lack of negative influence and selection effects in the real life peer networks studied in this dissertation may be that adolescents have information on a large number of traits and behaviors of their peers that can influence their own behavior and social interaction patterns. Previous research has shown, for example, that social influence and selection mechanisms in adolescence occur on the basis of topics ranging from substance use and delinquency (Burk, Steglich, & Snijders, 2007; Osgood et al., 2013) to music taste and academic achievement (Gremmen, Dijkstra, Steglich, & Veenstra, 2017; Steglich, Snijders, & West, 2006). Attitudes towards sexual minority orientations might play a minor role on top of that. It could be more conceivable that online platforms such as Twitter, where one evaluates interaction partners predominantly on the views they express, lead to disliking people one strongly disagrees with, as well as opinion polarization.

In addition to studying mechanisms that could bring about acceptance of sexual minority orientations or a lack thereof, the understanding of attitudes towards sexual minority orientations could be enhanced by monitoring how associations between sociodemographic characteristics and attitudes have changed over time. In the last two decades, many Western countries witnessed substantial increases in the public acceptance of sexual minority orientations (Ayoub & Garretson, 2017). Our understanding of the origins of this shift can be improved by monitoring two ways in which the association between acceptance of sexual minority orientations and sociodemographic characteristics might have changed over time. The first is by studying whether changes in societal levels of acceptance of sexual minority orientations are

not simply a byproduct of sociodemographic shifts in society. It could for instance be that increases in acceptance of sexual minority orientations follow from increased levels of educational attainment and advanced secularization in countries, or cohort replacement (Ayoub & Garretson, 2017; Loftus, 2001).

Next to changes in the demographic composition of populations, the strength or direction of associations between sociodemographic characteristics and acceptance of sexual minority orientations might have changed as well. The association between attitudes towards sexual minority orientations and other political orientations comprises one interesting example of such change (Spierings, Lubbers, & Zaslove, 2017). Rejection of or antipathies towards sexual minority orientations have traditionally coincided with conservative right-wing attitudes, such as traditional gender roles, xenophobia, and conservative family values (Inglehart, 1997; Whitley & Ægisdóttir, 2000). In recent years, however, a change has been witnessed in this regard; more and more populist right-wing political movements have started to embrace sexual diversity, often to emphasize the threat that culturally conservative migrant groups pose to "modern" societies (Spierings et al., 2017). A potential question for future research could be whether or not this weakened association between acceptance of sexual minority orientations and other right-wing conservative attitudes observed on the level of political movements can also be observed on the individual level. More specifically, can the disappearance of an association between rejection of sexual minority orientations and other traditionally right-wing conservative attitudes also be observed among voters? And if so, what triggered this? Relatedly, it would be interesting to study in which countries this process is observed most strongly. One intuitive hypothesis would be that, at the individual level, the disappearance of an association between rejection of sexual diversity and other traditionally right-wing conservative attitudes is more clearly observed in countries in which sexual diversity is most universally accepted, as acceptance of sexual diversity would be cognitively most easily linkable to feelings of national identification there.

This last hypothesis is an example of the third stream of research that I think could enhance our understanding of why certain sociodemographic attitudes are associated with acceptance of sexual minority orientations: exploring conditions under which these associations vary. One of the prime examples of research in this field is on context differences in the association between religiosity and the acceptance of homosexuality (Adamczyk, Boyd, & Hayes, 2016; Adamczyk & Pitt, 2009).

Specifically, Adamczyk and Pitt (2009) analyzed how the influence of one's religious beliefs on acceptance of homosexuality differs between countries, classifying countries along dimensions of cultural climate. Their classification is derived from modernization theory (Inglehart & Baker, 2000), that argues that cultural climates change as a consequence of economic development. Relatively less economically developed societies are characterized by higher levels of economic insecurity, which supposedly leads to people being pre-occupied with the accumulation of sufficient material resources. Within such contexts, labelled "survival cultural climates", individuals that do not adhere to traditional norms, such as sexual minority individuals,

are perceived as a threat and rejected. As countries progress in terms of economic development, accumulating economic resources becomes less pressing, leaving room for the fulfillment of non-material needs, which is reflected in an increased appreciation of self-expression. Consequently, diversity should become more accepted. Adamczyk and Pitt (2009) found that differences between religious and non-religious people in acceptance of homosexuality tend to be larger in countries with self-expressive than in countries with survival cultural climates. They explain this finding by arguing that there is less clear normative guidance in countries with a self-expressive value climate, such that personal characteristics become more important for one's attitudes. I do not think that this is intuitive. Based on modernization theory one could also argue that in countries characterized by high levels of economic development and a dominance of self-expressive attitudes and individualism, background characteristics are less decisive for life outcomes. As such, sociodemographic characteristics should less strongly differentiate between people in terms of their convictions, including the acceptance of sexual minority orientations.

An alternative theoretical framework that could be employed for generating hypotheses with regard to context differences in the effect of sociodemographic characteristics on acceptance of sexual minority orientations is the diffusion of innovations theory (Rogers, 1995). This theory, originally developed within the field of marketing, has recently been used as an explanatory framework for the dispersion of progressive attitudes in society (Pampel, 2011a; 2011b). Within the diffusion of innovations theory, it is argued that progressive ideas spread across society in a stratified manner. They are initially embraced by a societal elite, which predominantly consists of highly educated, secular, urban, young people. After the adoption of progressive ideas by this elite, the non-elite displays hesitance and sometimes even resistance towards this innovation. This leads to the expectation that background characteristics are relatively unimportant in societies characterized by very low or very advanced levels of acceptance of sexual minority orientations, whereas they strongly differentiate between people in societies in which acceptance is starting to become the norm amongst the socio-cultural elite.

Understanding mental health differences between sexual minority and heterosexual individuals. In the second part of this dissertation, I conducted three studies in which I tested potential explanations for differences in mental health between sexual minority and heterosexual individuals as well as among sexual minority individuals, using the minority stress framework for deriving expectations. The amount of evidence for the minority stress framework was not astonishing. Specifically, I found evidence for some of the interpersonal stress mechanisms tested in chapter 4, where bullying victimization and parental rejection partly mediated late childhood sexual orientation differences in depressive symptoms. Most other tests informed by the minority stress framework, however, returned non-significant results and small effect sizes.

In light of this, how should the empirical validity of the minority stress framework be evaluated? On the one hand, the minority stress framework should be hailed for several reasons. First, it integrated several strands of research into one clear and comprehensive framework to analyze how stigma and prejudice affect the mental health of sexual minority individuals. In addition, it inspired a large body of research that tested if and how stigma and prejudice mediate the association between a sexual minority orientation and low mental health. A third merit of the minority stress framework is its conceptualization and classification of different types of minority stressors, ranging from distal to proximal.

However, the limited support for the minority stress framework in this dissertation casts doubt on whether it is the "definitive" theoretical model for explaining sexual orientation mental health disparities. What is more, results communicated by other researchers have raised concerns with regard to the empirical validity of some components of the minority stress framework. For instance, the minority stress framework portrays identity concealment as a source of stress with detrimental effects on mental health. One suggested explanation for this association is that identity concealment withholds sexual minority individuals from attachment to the LGBT community, with the LGBT community comprising a source of support that might aid in buffering against minority stressors (Meyer, 2003). Notably, recent research questions both the association between identity concealment and mental health and the supposedly positive effect of attachment to the LGBT community for both coping abilities and mental health of sexual minority individuals (Pachankis et al., 2015). In that study, it was found that sexual minority men (but not women) that concealed their identity reported higher levels of mental health than sexual minority men who were out (Pachankis et al., 2015). They found this association regardless of the time that gay men were out, suggesting that it is not brought about by negative repercussions immediately following coming out. The authors offer the explanation that the LGBT community, which in the minority stress framework is framed solely as a coping device, might also comprise a source of stress, in that it might increase unhealthy competition for physical fitness and social status, or impose unhealthy norms with regard to substance use (Pachankis et al., 2015; Pachankis & Hatzenbuehler, 2013).

The question then is how research on the link between sexual minority orientations and mental health should proceed. Several researchers have argued for other angles in order to improve our understanding of the mental health of sexual minority individuals. Some of them take a stance almost diametrically opposing the minority stress framework. A prominent advocate of this stance is Ritch Savin-Williams, who, although not questioning the existence of stigma and prejudice regarding sexual diversity, rejects the perception of sexual minority individuals as stigmatized minorities (Savin-Williams, 2001; Savin-Williams & Joyner, 2014a, 2014b). His criticism is threefold. First, he criticizes the methodology of studies that find that sexual minority individuals report lower levels of mental health. Second, he argues that portraying sexual minority individuals as a stigmatized minority leads to the unjust reification of

sexual minorities as a social category, thereby wrongfully ignoring the large amount of variation that exists between sexual minority individuals in both sexual identity and mental health. Third, he argues that the portrayal of sexual minority individuals as a stigmatized minority underestimates the resilience and coping abilities that sexual minority individuals possess in dealing with prejudice.

To some degree, there is validity in this critique, which is reflected in recent research. Studies on sexual minority individuals, for instance, increasingly acknowledge the multidimensionality of sexual orientation. In that respect, it should be noted that also within the minority stress framework, a nuanced view on sexual orientation is displayed. The minority stress framework for instance does not equate an individual's sexual orientation with his or her minority identity, but sees it as distinct, yet strongly related concepts (Meyer, 2003, p. 679). Moreover, the study reported in chapter 5 of this dissertation falls within the rapidly increasing body of research that is concerned with explaining how individuals with a bisexual identity differ from other sexual minority individuals (Ross, Salway, Tarasoff, Hawkins, et al., 2017; Sarno & Wright, 2013). Also, the possibility of sexual minority individuals being resilient to and defying minority stress is something that has increasingly been acknowledged (Meyer, 2015).

Savin-Williams' most far-reaching criticism - that research claiming that sexual minority individuals display decreased mental health is biased and based on faulty methodology - is also the most contested one. The most well-known battleground of this polemic concerns the operationalization of sexual orientation in the Add Health data and the consequences this operationalization had for observed mental health disparities between the sexual minority and heterosexual respondents in this sample. Early papers using the sample based their classification of sexual minority status on a variable measuring same-sex attraction at wave one. According to Savin-Williams and Joyner (2014a, 2014b), the large proportion of respondents that identified as same-sex attracted at wave one but not at wave four (when sexual orientation was measured again) indicated that many of these respondents were "jokesters", people not completing the questionnaire seriously, which has driven the higher amount of problem behavior in the group of same-sex attracted respondents compared to different-sex attracted respondents. This initial critique elicited perhaps even more grave replies to it (Katz-Wise, Calzo, Li, & Pollitt, 2015; Li, Katz-Wise, & Calzo, 2014).

Although some valid points were risen in the criticism on the measurement of sexual minority status in the Add Health sample, I do not think that questioning the very existence of mental health disparities between heterosexual and sexual minority individuals is the most convincing critique on the minority stress framework. For one, the evidence that a sexual minority orientation is associated with decreased health outcomes has been corroborated in several meta-analyses (Marshal et al., 2011; Plöderl & Tremblay, 2015; Ross et al., 2017). Additional evidence for the existence of minority stress and its detrimental effect on the mental health of sexual minority individuals comes from a recent study on monozygotic twins with discordant sexual orientations. The sexual minority twin on average reported substantially lower levels of mental

health. As monozygotic twins do not differ genetically, differences in mental health should have come about through factors in the environment, alluding to the existence of minority stress (Timmins, Rimes, & Rahman, 2018). Furthermore, in the three samples in which I estimated mental health disparities by sexual orientation in this dissertation, sexual minority individuals consistently reported lower levels of mental health than their heterosexual counterparts.

Rejecting the minority stress framework altogether does thus not seem to be the most fruitful way for advancing research on mental health disparities by sexual orientation. A more conducive, but in my eyes incomplete solution, is provided by researchers that aim to deepen our understanding of the functioning of minority stress by specifying potential intermediate links between minority stress and mental health. The most prominent example of this line of thought is the psychological mediation framework (Hatzenbuehler, 2009). This conceptual framework asserts that the stigma that sexual minority individuals are confronted with leads to elevated levels of general psychological processes such as emotion dysregulation, social/interpersonal problems, and cognitive processes conferring risk for psychopathology, that are thought to mediate the association between minority stress and compromised mental health.

An example of this strand of research is a recent study on suicidality and depressive symptoms in a sample of sexual minority youth (Baams, Grossman, et al., 2015). This study tested whether two concepts from the interpersonal-psychological theory of suicide - perceived burdensomeness and thwarted belongingness - mediate the association between two minority stressors, coming out stress and sexual orientation victimization, and mental health. The strongest evidence was found for perceived burdensomeness operating as a mediator of the link between minority stressors and mental health outcomes. The biggest contribution of this approach is that it improves our understanding of mechanisms through which minority stress negatively influences the mental health of sexual minority individuals. It is of less use, however, in elucidating what the relative importance of minority stress processes are in explaining the gap in mental health between sexual minority and heterosexual individuals, as it does not consider alternative explanatory frameworks.

What then, are necessary steps to be taken for furthering our understanding of mental health differences between heterosexual and sexual minority individuals? I envision the most fruitful way to move forward to be a divergence of research. On the one hand, continued research on the minority stress framework is needed to overcome limitations of its existing implementations. On the other hand, in order to fully understand mental health disparities between heterosexual and sexual minority individuals, advancements could be made by integrating theoretical insights that complement the minority stress framework.

Improved tests of the minority stress framework. Improving tests of the minority stress framework is the first way in which we could enhance our understanding mental health disparities between sexual minority and heterosexual individuals. There are different options for doing so, such as devising more comprehensive tests of the minority stress framework. For example, the modest evidence for the minority stress framework detected in this dissertation could be a consequence of testing only a part of it. That is, in each study, only a small number of specific stressors were taken into account. The minority stress framework, however, argues that mental health disparities between heterosexuals and sexual minority individuals come about through a wide range of distal and proximal stress processes on the societal, interpersonal, and intra-individual level (Hatzenbuehler & Pachankis, 2016; Meyer, 2003). Future studies are needed that simultaneously test a wide range of minority stressors, in order to see to what extent these factors in combination can explain the mental health gap between heterosexual and sexual minority individuals.

Furthermore, the null results in chapter 6 and, to some extent, in chapter 4 could be a consequence of limitations of data and study designs, not necessarily a consequence of limitations of the minority stress framework. For instance, I did not include the outness of respondents that identified as sexual minority. Given that the respondents in these studies were adolescents, a substantial proportion of them might not yet have been out (Pachankis et al., 2015). Consequently, they might not yet have suffered from minority stress, as people in their social context would have been unaware of their sexual orientation. Relatedly, there was no way for me to verify whether, for instance, the marginalized position in the adolescent peer context that we presumed sexual minority respondents to be in, was an actual consequence of their sexual orientation.

These limitations comprise a suggestion for future research in indicating that data collections using general population samples should measure sexual orientation with a greater level of detail in order to be able to fully understand its consequences. Most general population studies limit the measurement of sexual orientation to the trait itself, inferring the sexual identity or level of same-sex attraction of its respondents. Progress could be made by additionally measuring sexual minority respondents' outness. Furthermore, the sexual minority respondents in these general population samples could be asked follow-up questions on, for example, the extent to which respondents think that their sexual orientation caused them to experience stigma and prejudice.

When doing so, it is important to take into account gender non-conformity as well. Sexual minority individuals have been found to behave more gender non-conform than heterosexual individuals (e.g., Timmins et al., 2018). An explanation for mental health disparities between heterosexual and sexual minority youth complementary to minority stress processes could be that sexual minority individuals do not neatly follow

gender norms. Measuring gender non-conformity additionally provides the opportunity to test whether sexual orientation and gender non-conformity are distinct risk factors for social marginalization, or whether a sexual minority orientation should be perceived as an aspect of gender non-conformity. Although some researchers have started to integrate the role of gender non-conformity when the mental health consequences of sexual minority orientations (e.g., van Beusekom et al., 2016; van Beusekom, Bos, Overbeek, & Sandfort, 2015), it is still far from standard practice.

A third and more distinct way in which I think we could improve our evaluation of the minority stress framework is by testing its universality. This could be achieved by comparing the relative importance of specific minority stress processes in different countries. The bulk of current research employs data from North America or Western Europe. Given the relatively high levels of acceptance of sexual diversity in these countries (Pachankis & Bränström, 2018), it is feasible that minority stress there is predominantly present at the distal, societal level. Experiences of minority stress on the interpersonal level might be less frequent. In countries where homosexual acts are unlawful, acute threats to the health and well-being of sexual minority individuals could reside also on the interpersonal level, including the possibility of falling victim to anti-gay violence. Which types of minority stress impose the most acute threats to sexual minority individuals' mental health might thus vary by context. More internationally comparative research is needed to find out whether there is merit in this hypothesis.

Integrating insights from complementary conceptual frameworks. In addition to designing studies that improve how we test the minority stress framework, I think that progress could be made by integrating insights from complementary theoretical frameworks in minority stress explanations. Two suggestions are provided here. The first complementary explanation to consider involves a slight modification of the minority stress concept and revolves around the distinction between objective stressors and the subjective appraisal of it by minority individuals. Despite acknowledging that both objective stressors and the subjective appraisal of them can negatively affect the mental health of sexual minority individuals, the minority stress framework rests on the assumption that the existence of objective stressors is a prerequisite for minority individuals to experience stress. It assumes that subjective stress develops through past experiences of stigma and prejudice and the anticipation of potential future occurrences of it. It could, however, be the inherent feeling of being different and deviant from the norm that causes lower well-being in sexual minority individuals rather than objectively identifiable stressors, in particular in contexts in which "open" prejudice against sexual diversity is relatively low. An example would be the hetero-norm that is assumed in interaction with strangers. As such, subjective experiences of stress might negatively affect the mental health of sexual minority individuals, independent of the existence of objective sources of stress in society.

Integrating such ideas into minority stress explanations is not without risks. The introduction of the minority stress framework reflected a much needed move away from explanations of the association between a sexual minority orientation and low mental health that held the sexual minority individual responsible, to holding societal prejudice and stigma responsible (Hammack et al., 2013). Considering that the subjective expectations of minority stress could be responsible, independent of the existence or experience of objective stressors by sexual minority individuals, may lead to the inference that it is sexual minority individuals after all that are to blame. I think this would be an unjust conclusion. Although stress caused by feelings of deviating from the norm can exist independently of distal stressors included in the minority stress framework, they still exist because of implicit and explicit heteronormativity in society. In that sense, integrating these ideas should be considered a widening of the definition of minority stress.

A second way through which our understanding of how mental health disparities by sexual orientation emerge could be advanced, is by considering insights from fields that study the mental health consequences of other dimensions of inequality. The mechanisms outlined within the minority stress framework can, for instance, be applied to the experiences of ethnic minority individuals with only slight modifications. Contrary to sexual minority individuals, who consistently report lower levels of mental health than heterosexual individuals, studies measuring mental health disparities by ethnicity do not always find that ethnic minority individuals report lower levels of mental health than ethnic majority individuals. What is more, some studies even find that ethnic minority individuals, particularly first or second generation migrants, report better mental health than ethnic majority individuals (Mood, Jonsson, & Låftman, 2016).

Some of the explanations for this unexpected finding could further our understanding of mental health disparities by sexual orientation. Most relevant in this regard seems to be the role that ethnic identity is thought to play in buffering the negative consequences of racism. Studies on the buffering role of ethnic identity make use of the notion that an ethnic minority identity, just as a sexual minority identity, exists both on the individual and group level. The difference between both identities seems to be that an ethnic identity more prominently is a group identity, whereas a sexual identity in the first place is an individual identity, for instance by not being outwardly recognizable. This makes it comparably easier for ethnic minority than for sexual minority individuals to attribute stigma and prejudice to negative societal evaluations of their ethnic groups, and less so to negative appraisals of them as an individual, which might buffer the negative consequences of perceived discrimination for mental health.

In line with this, a recent meta-analysis on the mental health consequences of perceived discrimination revealed that for ethnic and racial discrimination, the negative effect of group discrimination on mental health was much lower than the negative effect of personal discrimination. This contrast was less sharp for sexual

orientation discrimination (Schmitt, Branscombe, Postmes, & Garcia, 2014). More generally, for discrimination on non-concealable traits (e.g., weight, gender, race, and age), group discrimination had a smaller negative effect on mental health than personal discrimination, whereas such a contrast was not detected for concealable stigmatized identities (e.g., sexual orientation, unemployment) (Schmitt et al., 2014). A reason for this weak effect of group discrimination on the mental health of ethnic minority individuals might be the buffering effect of racial socialization by parents which stimulates resilience in their offspring, and attributing discrimination to institutional factors instead of personal flaws (Fischer & Shaw, 1999; Harris-Britt, Valrie, Kurtz-Costes, & Rowley, 2007).

Taken together, these findings suggest that differences between sexual and ethnic minority individuals in the extent to which stigma impacts mental health arise partly through differences in the ability to attribute this to group instead of individual discrimination. Future research on the mental health of sexual minority individuals could thus benefit from studying the potentially moderating effect of stress attribution. Moreover, future studies may investigate antecedents of stress attribution in sexual minority individuals. Bearing in mind the argumentation above, it could be that sexual minority individuals that make their sexual orientation explicitly outwardly recognizable, for instance by being out or by behaving strongly gender non-conforming, are better able to attribute stress to group instead of individual discrimination.

7.3. Conclusion

In this dissertation I conducted five empirical studies to enhance the understanding of the origins of attitudes towards sexual minority orientations and mental health differences between sexual minority and heterosexual individuals. In the first part of this dissertation, I sought to understand acceptance of sexual minority orientations. In the first study, I tested the extent to which the association between education and acceptance of homosexuality was explained by factors at the family and individual level, hereby comparing the relative empirical validity of educational and spurious effects models (Campbell & Horowitz, 2016). Results revealed that a large part of the association between educational attainment and acceptance of homosexuality was confounded by family background and individual characteristics. In a second study, I tested one suggested explanation for the effect of education on attitudes towards sexual minority orientations: socialization by fellow students. Using social network data of Dutch adolescents, I tested whether respondents grew closer to their friends over time, and whether they developed polarizing opinions compared to peers they did not like, at the same time controlling for selection mechanisms. Results point to the socializing influence of friends with respect to attitudes towards homosexuality.

Together, these two studies represent examples of research that tests mechanisms through which attitudes towards sexual minority orientations come about.

Another fruitful avenue for future research is studying how association between personal characteristics and attitudes towards sexual minority orientations have altered over time, as such improving insight in what has brought about the substantial social change in the acceptance of sexual minority orientations in many Western societies in the past decades (Ayoub & Garretson, 2017). A third way to move forward could be studying the conditions under which certain sociodemographic characteristics correlate strongly with acceptance of sexual minority orientations, and conditions under which they do not.

In the second part of this dissertation, I conducted three studies in which I tested potential explanatory mechanisms of mental health differences between heterosexual and sexual minority individuals, and mental health differences between individuals within the population of sexual minority individuals. The development of research questions was guided by recent suggestions for improving our knowledge of the mental health of sexual minority individuals (Mustanski, 2015). In order to improve knowledge with regard to the emergence of sexual orientation mental health disparities and their development over time, I estimated differences in depressive symptoms between heterosexual, lesbian, gay, and bisexual youth from late childhood to early adulthood. Results indicate that already in late childhood, sexual minority individuals displayed higher levels of depressive symptoms than their heterosexual counterparts. Differences increased over time and could partly be explained by mechanisms in line with the minority stress framework.

In chapter 5, I shifted focus towards explaining mental health differences between subgroups within the sexual minority population, more specifically between bisexual and other sexual minority individuals by examining the role of sexual identity. Results indicate that in comparison to other sexual minority individuals, bisexual individuals think less positively about their sexual orientation and their sexual identity was less well integrated with other aspects of their identities, leading to social identities of higher complexity. Differences in sexual identity, however, did not explain mental health differences between bisexual and other sexual minority individuals. Dimensions of sexual identity did not moderate minority stress, and only identity valence (but not sexual identity integration or identity complexity) mediated the association between a bisexual identity and depressive symptoms to some extent.

In chapter 6, I studied the role of the size and characteristics of adolescent peer networks in explaining mental health disparities by sexual orientation. Sexual minority individuals were not found to have peer networks consisting of more negative and fewer positive ties, nor did the size and characteristics of adolescent peer networks substantially affect mental health.

Taken together, the empirical evidence provided for the minority stress framework in this dissertation is modest. In order to come to a better-informed evaluation of the empirical validity of the minority stress framework for explaining mental health differences between sexual minority and heterosexual individuals, a divergence of research could be fruitful. On the one hand, improved tests of the

empirical validity of the minority stress framework are needed. This could reduce the possibility that null results in the current literature are a consequence of suboptimal study designs. In particular studies employing general population samples could benefit from measuring sexual orientation with increased detail, for instance by taking into account outness. As such, minority stress processes can be tested and evaluated with greater precision. On the other hand, research is needed that integrates ideas from other conceptual frameworks for improving minority stress explanations.

In sum, the studies presented in this dissertation and the suggestions for future research may help to better understand how sexual minority individuals are evaluated by society and what affects their mental health.