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MEDIA USE AND SUBJECTIVE SOCIAL COHESION

Examining the reciprocal relationship between media use and subjective social cohesion

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Abstract

Media and social cohesion

There is quite a broad consensus among scholars about the importance of social cohesion. However, the field has often been criticised for the lack of agreement regarding the conceptualisation of social cohesion. Without a consolidated concept, the field has struggled to accumulate empirical data on the phenomenon. In order to conceptualise social cohesion, some authors focus on objective factors in society, such as crime rates and civic engagement, while others conceptualise it as a subjective phenomenon that starts from the individuals' state of mind and concerns their perceptions of themselves with regards to the society. This study follows the subjective approach to social cohesion, conceptualising the phenomenon as subjective social cohesion. Furthermore, there is a growing concern about the erosion of social cohesion around the world. Media was initially seen as the culprit, argued by the fact that people absorb the overly negative portrayal of everyday life on-screen. However, researchers labelled this explanation as oversimplified, pointing out the individuals who seek attitude-consistent media, which reinforces their attitudes and beliefs. This study aims to investigate whether there is a mutually reinforcing relationship between media use and social cohesion and whether this relationship differs depending on which media type people use. This will be done by using the reinforcing spirals model, in which media use and subjective social cohesion are presented as two variables influencing each other dynamically and continuously. Therefore, the reinforcing spirals model will serve as a theoretical framework for investigating the relationship between subjective social cohesion and media use. This study will use longitudinal panel survey data (N=2254). The results from the cross-lagged panel suggest that the relationship differs greatly depending on the media type in question. On the one hand, overall media exposure was positively associated with subjective social cohesion, and the relationship was found not to be mutually reinforcing. On the other hand, right-wing alternative media was found to have a negative, while left-wing alternative media was found to have a positive mutually reinforcing relationship with subjective social cohesion.

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This master thesis was written in the summer of 2020 and serves as the final work of my master's degree in political communication. It presents the results of a study investigating the relationship between media use and subjective social cohesion. More specifically, it analyses whether this relationship is mutually reinforcing.

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1. Introduction

The concept of social cohesion has gained importance in both academic research and policy discussions in the last decades (Strömbäck, 2015). Reviewing the social cohesion literature, it becomes clear that it is regarded as a very important aspect of successful governance. Not only is it "essential for generating the confidence and patience needed to implement reforms" (Easterly et al., 2006, p. 1), it is also “fundamental to much of what the government is trying to accomplish in all its policy field” (Fonseca et al., 2019, p. 231). Social cohesion is considered as having a positive influence on the quality of institutions and therefore economic growth, as well as on the levels of trust towards the institutions and fellow citizens, which benefits the overall well-being of individuals (Grimalda & Tanzler, 2018). Some go even further in expressing the importance of the concept, stating that social cohesion “is at the heart of what humanity currently needs <…>” (Fonseca et al., 2019, p. 231).

Although there is quite broad consensus among scholars about the importance of social cohesion, a review of the literature shows that there are many different conceptualisations of social cohesion, and while some focus on objective factors in society, other focus on subjective and perceptual factors. Briefly, what characterizes conceptualisations of social cohesion that focus on objective factors is viewing social cohesion as a positive state in a society, maintaned by high rates of civic engagement, high levels of social trust, and low crime rates. In contrast, what characterize conceptualisations of social cohesion that focus on subjective factors is that they consider citizens' *perceptions* of the current state of society and of themselves with regards to the society as indicators of social cohesion. Both views are important, and all conceptualisation bring certain value to the discussion of the concept (Strömbäck, 2015). However, this thesis will argue for using individual perceptions as indicators of social cohesion, which is sometimes termed as subjective social cohesion.

In simplified terms, subjective social cohesion is individuals’ perceptions of themselves and the surrounding society. Larsen (2013) argues that these perceptions of reality have real consequences for the society, bringing up the “Thomas theorem“, which states that “[i]f men define situations as real, they are real in their consequences“ (p. 4). These perceptions might be shaped by both direct and indirect experiences. For example, direct experiences, such as meeting and interacting with friends and strangers, can be assumed to have an effect on individuals’ perceptions of these relationships.

However, in most cases, people base their perceptions of society at large on information from various media. Research has repeatedly shown that media constitute the most important source of information with respect to matters beyond individual's own experiences (Shehata & Strömbäck, 2014), including people or groups of people with whom individuals' have limited direct experiences. Individuals' perceptions of reality are thus mostly shaped by their exposure to media (Gerbner, 1972). Focusing its coverage on violence and corruption, rather than on acts of kindness and comradery, the media can have a negative influence on our perceptions of reality. This suggests that media might have an impact on the degree of subjective social cohesion. Despite this, there is virtually no research that links media use with subjective social cohesion.

However, there exists research investigating certain aspects of subjective social cohesion, one of which is social trust (Kushner & Sterk, 2005; Moy, Scheufele, 2000). Social trust is most often regarded as a key indicator of social cohesion (Bollen & Hoyle, 1990; Larsen, 2013; Strömbäck, 2015), and it measures the perceived trustworthiness of others in a society. This research is clear on the linkage between media use and social trust (Larsen, 2013; Strömbäck, 2015; Grimalda & Tänzler, 2018). Studies have mostly investigated the causal relationship of media effects on social trust, and found those effects to be both positive and negative, depending on the media type (Putnam, 1995), the topic at hand (Gross et al., 2004), and how relevant actors are portrayed (Larsen, 2013). Other studies argue that attitudes about the social world, such as the perceived trustworthiness of others, are both a cause and effect of media use, causing individuals to search for like-minded information, which in turn reinforces their attitudes (Slater, 2015).

There exists scepticism towards using simple causality models for studying media effects, as they are not taking important outside factors into account (Uslaner, 1998). Some argue that investigating media effects should not be limited by the "cannons of causality", and that there are more relevant factors involved outside of the classic causality model in which media use influences subjective social cohesion (Cappella, 2006, p. 235). There also exists the problem of distinguishing between "people with a certain trait that seek out a particular medium" (selective exposure), and "people develop[ing] that trait by being exposed to that medium" (media effects) (Putnam, 2000, p. 235).

It might be the case that subjective social cohesion both influences and is influenced by media use, forming a reciprocal relationship, and resulting in a reinforcing spiral (Slater, 2007). The

reinforcing spirals model (Slater, 2007; Slater, 2015) acknowledges that media use has an effect on attitudes and related behaviours, but emphasizes that media use is a mediating or endogenous variable, shaped beforehand by social context and individual characteristics. The model "views selective exposure to attitude-consistent content and media effects as two components of a larger dynamic process by which such social identities, attitudes, and behaviors are maintained" (Slater, 2015, p. 371). In short, the model presents both variables as influencing each other dynamically and continuously. This provides the opportunity to investigate the possible reciprocal and dynamic nature of the relationship between media use and subjective social cohesion.

Against this background, the overall purpose of the thesis is to investigate the relationship between media use and subjective social cohesion using the reinforcing spirals model. More specifically, the purpose is to investigate (a) the extent to which media use influences subjective social cohesion, (b) the extent to which subjective social cohesion influences media use, and (c) whether these influences are dynamic and reciprocal.

This thesis will contribute to existing literature by investigating the relationship between media use and subjective social cohesion over time, using three-wave panel data, which is a precondition for investigating *changes* in attitudes or perceptions and in media use. This thesis will analyse data from a three-wave panel study conducted in Sweden between 2014 and 2016. This provides the possibility of investigating both the extent to which media use influences subjective social cohesion over time, and the extent to which subjective social cohesion influences media use over time.

1.1 Disposition

The next chapter will present the field of social cohesion and how the phenomenon has been studied and conceptualised over time. It will start by briefly reviewing the current discussions on the concept, describing the similarities and differences between approaches. Furthermore, it will present the many conceptualisations of social cohesion and how they have evolved since the last decades. As this thesis argues for conceptualising social cohesion as a subjective phenomenon, the chapter will follow by focusing on the conceptualisations of subjective social cohesion, as well as on the conceptualisations and operationalisations of each of its' indicators. After presenting the operationalisations, the chapter will present the linkage between the media and subjective social cohesion. More precisely, it will present the

theoretical background and empirical data based on previous research, investigating the relationship between media use and subjective social cohesion. Finally, it will present the most relevant model for this paper, the reinforcing spirals model, which investigates the possible mutually reinforcing relationship between media use and subjective social cohesion. The chapter will conclude by developing research questions, along with relevant hypotheses with the aim of answering the research questions. The third chapter will present the methodology used for conducting the research and a short discussion on validity. Chapter 4 will present the findings of the study. The final chapter will summarise and discuss the results, followed by a discussion on the limitations, contributions and directions for future research.

2. Theory and background

2.1 The Field of Social Cohesion

The academic approach to social cohesion is clear on its importance to the functioning of a democratic society (Fonseca et al., 2019; Easterly et al., 2006; Stanley, 2003). Social cohesion is regarded as a multidimensional concept (Jenson, 1998; Bernard, 1999; Berger-Schmitt, 2000; Bottoni, 2018), without a universally accepted definition (Friedkin, 2004; Chan et al., 2006; Bottoni, 2018), which is considered as declining in most countries (Schiefer & Noll, 2017; Council of Europe, 2005; Jenson, 1998; Schmeets & te Riele, 2014). Chan et al. (2006) differentiated the academic discourse from the policy discourse on social cohesion. The academic discourse is characterised by attempts to conceptualise and analyse social cohesion, while the policy discourse is "problem-oriented", and trying to solve the issues that erode social cohesion (Chan et al., 2006; Schiefel & Noll, 2017, p. 582). Both discourses have been criticised for their shortcomings. On the one hand, the academic discourse has been repeatedly criticised for its lack of consensus regarding the conceptualisation of social cohesion (Sciefer & Noll, 2017; Bottoni, 2018). On the other hand, the policy discourse is criticised for its use of social cohesion as a "catchword" (Chan et al., 2006, p. 277; Schiefer & Noll, 2017) for all issues that the society currently faces (Schiefer & Noll, 2017). Another criticism of the policy discourse stems from the fact that each agent is focused on a single aspect of social cohesion that pertains to his present goals, thus defining it to fit his needs, which are often politicized (Schiefer & Noll, 2017). In order to contextualise these criticisms and to a gain deeper understanding of the fragmented field of social cohesion, the next section will present the conceptualisations of social cohesion from modern history.

2.2 Conceptualisations of Social Cohesion

The field of social cohesion is often characterized as ambiguous and contemporary discussions on social cohesion have been focused on the operationalisation and usability of the concept (Schiefer & Noll, 2017). To summarize this unclear nature of social cohesion, Jenson (1998) writes:

> Social cohesion is an ambiguous concept because it can be used by those seeking to accomplish a variety of things. It is sometimes deployed in rightwing and populist politics by those who long for the good days when life seemed easier, safer, and less threatening. But social cohesion can also be used by those who fear the consequences of excessively marketised visions of the future (p. 37).

In the 1990s, Canada was one of the first modern and multi-cultural countries to try to conceptualise social cohesion in order to create policies that could foster and maintain stable levels of social cohesion (Jenson, 1998). Jenson (1998) addresses this increasing interest in social cohesion in Canada and maps several pieces of policy-relevant discussions, from which the author develops a concept of social cohesion consisting of five dimensions. The first dimension of *belonging/isolation* was found throughout the entire mapped literature (Jenson, 1998), and it refers to members of a community sharing values, making them feel a part of that community, opposite of which would make them feel isolated. Next, the dimension of *inclusion/exclusion* refers to individuals not being included in economic institutions, such as markets. Equal opportunities in the market are necessary for social cohesion, as marginalisation leads to exclusion, which then diminishes social cohesion. The third dimension of *participation/non-involvement* refers to political discussions and action. For example, individuals' inability to participate in political decisions affecting their community can make them feel excluded, posing a threat to social cohesion. The fourth dimension of *recognition/rejection* refers to the levels of tolerance for differences between groups in society. Modern and pluralistic societies are more multi-cultural than ever, and they have to foster the institutions that contribute to practices of recognition of differences, in order to preserve social cohesion. The fifth and final dimension of *legitimacy/illegitimacy* refers to social cohesion as a collective construction. Communities, not individuals, have to maintain the legitimacy of institutions that foster mediation and discussion between individuals, protecting them from cynicism and censorship. This conceptualisation stresses shared values, collective identity, and respect of difference as relevant factors of social cohesion (Bottoni, 2018). This conceptualisation was praised as one of the most important in recent history (Stanley, 2003; Bottoni, 2018), not least because it consolidated social cohesion as a concept, and listed several relevant indicators. However, this conceptualisation was criticised for including the dimensions of ‘recognition’ and ‘inclusion’ as indicators of the concept. This criticism was based upon the observation that these factors are simply positively affecting social cohesion, but are not a part of the concept (Bottoni, 2018).

A more recent conceptualisation of social cohesion was done by Duhaime et al. (2004, p. 301). At this time, globalisation was seen as a negative influence on social cohesion by both academics and policy authors, who regarded globalisation as a main threat to social cohesion in modern societies. By now, social cohesion was becoming a major political issue in Canada, and the government made efforts to understand these new social divisions in order to create policies with the aim of promoting social cohesion (Duhaime et al., 2004). Duhaime et al. (2004) investigated the community of Canadian Inuit in order to highlight the

importance of non-Western criteria for social cohesion. The social cohesion research in Canada was focused on wage and education as factors that measure social cohesion, disregarding social ties such as fishing, exchanging materials, and giving emotional and spiritual support. In order to fill this gap, Duhaime et al. (2004) conceptualised social cohesion as having two dimensions. The first dimension refers to the access to government and formal institutions, such as schools and healthcare facilities. Although the Inuit live in the remote Canadian Arctic, they are part of the Canadian society, and they need to have the same access to formal institutions if the social cohesion in their community (and in Canada) is to be preserved. The second dimension refers to "access to family and community-based, face-to-face relations" (Duhaime et al., 2004, p. 299). The existence of both of these dimensions is not enough for maintaining satisfying levels of social cohesion in a society. Both dimensions have to complement each other without diminishing one another. For example, receiving formal education must not interfere with the culture and the values of the community, while, at the same time, focusing solely on the relations within the community could lead to not taking advantage of the access to these formal institutions. The authors listed six sets of indices to measure these dimensions. The first index of the *presence of social capital* refers to the individuals' "trust, confidence and willingness to participate in civic institutions and voluntary associations" (Duhaime et al., 2004; Jenson, 1998; Policy Research Initiative, 1999; Putnam, 2001; Woolcock, 2001). Social capital is fostered by the members of the community having access to formal institutions, such as by being employed there or receiving benefits (Duhaime et al., 2004). The second index of *demographic stability* refers to population growth rates and mobility in and out of the resident's community in the past five years. Population growth and mobility towards the community are both seen as having a positive influence on social cohesion. The third index of *social inclusion* refers to the access and participation in social networks that provide emotional support, such as friends and family. Next, the fourth index of *economic inclusion* refers to access to income in form of government assistance and insurance, as well as labour activity. This concerns both salaries and welfare. The fifth index of *community quality of life* measures the members' satisfaction with the institutions and the conditions in the community, such as healthcare, safety, and housing. The sixth and final index of *individual quality of life* refers to an individual's sense of well-being in the community. Whereas the fifth index measures the individuals' perceptions of the well-being of their society as a whole, this index measures the perception of their own individual quality of life within the community. The authors view social cohesion as an outcome of various processes, not as a goal or something to strive for (Duhaime et al., 2004).

Some criticised this framework, stating that only indices regarding social capital and

social and economic inclusion are relevant, as the others are affecting but are not constituents of social cohesion (Chan et al., 2006). Others also included economic inclusion as an element that contributes to, rather than constitutes social cohesion, making it redundant in the framework (Bottoni, 2018) The unclear nature of factors that affect social cohesion versus constituents of social cohesion is a common theme in the social cohesion literature and is often mentioned by the authors. Since the framework by Duhaime et al. (2004), the field has criticised the too-broad frameworks of social cohesion, stating that efforts to encompass too much will not result in a usable and measurable model (Friedkin, 2004).

A big step towards making social cohesion models easier to measure was after the introduction of the distinction between subjective and objective components of social cohesion (Bollen & Hoyle, 1990). Subjective components referred to member's perception of their identity inside the group, while the objective components referred to members' self-reports about their closeness to other members in the group (Bottoni, 2018). These self-reports were conceptualised as objective components, but they are in fact individuals' perceptions of reality. They may also be understood as indicators of subjective social cohesion, as individuals may have a distorted view of their closeness to other members of the group. This conceptualisation of social cohesion was built upon by Chan et al. (2006), whose conceptualisation then had a big influence on the latest attempts to conceptualise social cohesion (Schiefer & Noll, 2017; Bottoni, 2018).

Canada was one of the few countries that focused early on regarding social cohesion as a policy issue, but their definition of the concept was "largely a new catchword for its long-time policy to promote multiculturalism" (Chan et al., 2006, p. 277). By this time, social cohesion has evolved to become both social and an economic issue (Chan et al., 2006). As globalisation increased, it brought with it many challenges to our societies in terms of increased mobility and new forms of exclusion on digital media (Chan et al., 2006). To address these challenges, there was a need for a usable concept and a definition of social cohesion, which both academic and policy discourse, until then, failed to provide (Chan et al., 2006). In order to fill this gap, Chan et al. (2006) followed Bollen and Hoyle's (1990) distinction between subjective (social trust, sense of belonging) and objective (crime rates, civic engagement) components of social cohesion. The authors introduced the distinction between horizontal (between members of society) and vertical (between state and its citizens) dimensions of social cohesion (Chan et al., 2006, p. 293). In their view, a good definition of social cohesion should be minimalistic, it should exclude more than it includes, and it should not be synonymous with a good society, as that would make it impossible to measure. Social cohesion was thus defined as "a state of affairs concerning both the vertical and the horizontal

interactions among members of society as characterized by a set of attitudes and norms that includes trust, a sense of belonging and the willingness to participate and help, as well as their behavioural manifestations“ (Chan et al., 2006, p. 290). This definition was praised for the fact that it excluded factors of shared values, quality of life, and (in)equality, which were recognized as three of six dimensions commonly used in conceptualisations of social cohesion, but were in fact “antecendents and consequences“ of social cohesion (Schiefer & Noll, 2017, p. 585). Excluding these dimensions, Schiefer and Noll (2017) defined social cohesion as a “descriptive attribute of a collective, indicating the quality of collective togetherness“, which makes a cohesive society dependent on “close social relations, pronounced emotional connectedness to the social entity, and a strong orientation towards the common good“ (p. 592). The authors view social cohesion as a gradual phenomenon that exhibits higher or lower levels, which can be measured by individual's and group's attitudes and behaviours within the society.

In conclusion, conceptualisations of social cohesion in recent history have been focused on narrowing the framework and trying to make the concept useful and measurable across countries and cultures. There are disagreements on whether certain indices of social cohesion are constituents of the concept, or simply factors that affect social cohesion. As the field developed, scholars dismissed some indices by former researchers and kept others, which resulted in modern concepts of social cohesion being more narrow and minimalistic. The latest models conceptualise social cohesion as having objective and subjective components, and vertical and horizontal dimensions. There also seems to be a mix of subjective and objective factors in the definitions of social cohesion (Strömbäck, 2015).

Going through the literature, it seems that conceptualising social cohesion as an objective phenomenon does not tell the whole story (Duhaime et al., 2004; Strömbäck, 2015). There is a growing number of authors who focus on the subjective and perceptual factors of social cohesion. Although these authors regard objective indicators of social cohesion as important, they conceptualise social cohesion as a question of how individuals assess themselves with regard to other groups in the society, arguing that "in the long run it is people's subjective experiences that matter" (Strömbäck, 2015, p. 99). According to these authors, individuals' actions can only be based upon their perception of themselves, of others, and of the current state in their society, and they term their conceptualisation as "subjective social cohesion" (Strömbäck, 2015, p. 99; Chan et al., 2006; Bollen & Hoyle, 1990). In order to further highlight the importance of subjective and perceptual factors of social cohesion, these authors quote the Thomas theorem, which states that "[i]f men define situations as real, they are real in their consequences" (Larsen 2013, p. 4). For example, measuring the number

of beds in hospitals is not sufficient to assess the state of hospitals, let alone the state of healthcare in a country (Duhaime et al., 2004). Individual perceptions and assessments are what fills this gap, and what can guide policy-makers to discover unknown issues and the citizens' perceived well-being (Duhaime et al., 2004).

Although it is growing in importance, subjective social cohesion has not always been given much prominence in conceptualisations of social cohesion. In order to understand this development, it is important to observe previous conceptualisations of subjective social cohesion.

2.3. Conceptualisations of Subjective Social Cohesion

Some authors state that social cohesion is a concept most often used as a characteristic of groups, nations, or citizens, but most of the indicators used to measure the concept are micro-level assessments by individuals on their perceptions of social cohesion (Saggar et al., 2012). However, contemporary literature more or less successfully distinguishes between subjective and objective social cohesion and their indicators.

Bollen and Hoyle's (1990) distinction between subjective and objective components of social cohesion has been very influential, and most of the authors since then have taken included this distinction into their concepts of social cohesion. Thirty years ago, when this distinction was made, the field was much more fragmented than it is today (Schiefer & Noll, 2017). Subjective social cohesion was seen as a neglected but important aspect of social cohesion, in need of separation from objective social cohesion. This would have provided the opportunity to test the concepts separately, and in the process gain a deeper understanding of the mechanisms of social cohesion (Bollen & Hoyle, 1990). Bollen and Hoyle (1990) defined subjective social cohesion as "encompass[ing] an individual's sense of belonging to a particular group and his or her feelings of morale associated with membership in the group" (p. 482). In this definition, sense of belonging and feelings of morale are seen as two dimensions of subjective social cohesion. The expectations were that if the individuals feel a stronger sense of belonging, the group will boast stronger unity (Bollen & Hoyle, 1990). Subjective social cohesion was conceptualised as a mediator of objective social cohesion's influence (Bollen & Hoyle, 1990).

Another conceptualisation defined social cohesion as the extent to which citizens "stick" to each other, or in other words, how close they are to each other (Chan et al., 2006, p. 289). Importantly, these "sticky" relationships between citizens were seen as being "ultimately a reflection of individuals' state of mind", only manifesting if (1) the citizens trust each other, (2) share a common identity or a sense of belonging to their society, and (3) if

they show behaviour according to these subjective feelings (Chan et al., 2006). Without trust, there can be no cohesion, but without sense of belonging or a common identity, this trust will not be manifested in behaviour between same individuals over-time, and single acts of trust cannot be labelled as social cohesion (Chan et al., 2006). Although everything starts from the individuals' state of mind, there can be no social cohesion if these subjective assessments of trust and belonging do not manifest in behaviour beneficial to social cohesion in a society (Chan et al., 2006). Other authors, who followed the same line of reasoning, conceptualised sense of belonging and social trust as indicators of subjective social cohesion, and its manifestations in behaviour as indicators of objective social cohesion. (Duhaime et al., 2004; Grimalda & Tänzler, 2018). These authors stress the benefits of measuring social cohesion using individual assessments as:

> (1) they provide direct measures of an individual's assessment of his own well-being; (2) they provide data along a single dimension, like 'satisfaction with healthcare', that objective measures, like number of hospital beds per 100000, cannot measure; (3) they facilitate the identification of problems that merit special attention and social action, both with regard to particular aspects of life and for particular sub-groups of the population (Duhaime et al., 2004: 311; Davis, Fine-Davis, 1991, p. 108).

According to those who conceptualise social cohesion in terms of subjective social cohesion, social cohesion should be understood primarily as a cognitive and perceptual phenomenon (Larsen, 2013; Chan et al., 2006; Bollen & Hoyle, 1990). An example of this is a study which measured the decline of social cohesion in the UK and the US, and the increase of social cohesion in Sweden and Denmark. Citizens of the UK and the US perceived most of the other citizens as belonging to the untrustworthy "bottom" of the society, which they themselves were not a part of, while citizens of Sweden and Denmark developed a perception that most of the other citizens, along with themselves, belong to the trustworthy middle classes (Larsen, 2013, p. 237). These perceived distances between individuals in a society are mentioned by Strömbäck (2015) as an indicator of subjective social cohesion, which he defines as "the extent to which society is characterized by people feeling a sense of community and trust in each other, by perceived distances and conflicts between different groups being small, and tolerance for difference being great" (p. 100).

In conclusion, subjective social cohesion was given little to no importance in social cohesion literature before the distinction between subjective and objective components of social cohesion. This conceptualisation of subjective factors of social cohesion included individuals' sense of belonging and their motivation to be a part of the group. This conceptualisation was later picked up by many authors, starting with Chan et al. (2006) and their conceptualisation of social cohesion as a subjective phenomenon that starts from

individuals' state of mind, which was termed subjective social cohesion. Long-term trust between individuals, which is dependent upon their sense of belonging to the same community, was seen as a precondition for the existence of objective social cohesion (Chan et al., 2006). This explanation of social cohesion as a subjective phenomenon that starts from the individual and his perception of himself and others in the society was picked up by many subsequent authors (Larsen, 2013; Duhaime et al., 2004; Strömbäck, 2015; Grimalda & Tänzler, 2018). The key indicator of subjective social cohesion was found to be the existence of social trust (Chan et al., 2006; Larsen, 2013; Strömbäck, 2015), closely followed by sense of belonging (Bollen & Hoyle, 1990; Chan et al., 2006; Strömbäck, 2015), small perceived distances between others in the society (Larsen, 2013; Strömbäck, 2015), and tolerance for difference being great (Strömbäck, 2015). All of these indicators start from the individual and his perception of himself and others in relation to himself. As mentioned before, a conceptualisation of social cohesion needs to be easy to measure in order for it to be considered appropriate. As operationalisations of subjective social cohesion as a concept are practically non-existent, we need to observe the operationalisations of each of the four indicators of subjective social cohesion.

2.4. Operationalisations of Subjective Social Cohesion

Following the literature on subjective social cohesion, key indicators of the concept are found to be social trust, sense of belonging, perceived distances between others, and tolerance for difference. Some authors focused on one indicator, while others combined two or more in their operationalisation of subjective social cohesion.

2.4.1 Operationalisations of Social Trust

Research has mostly focused on using individual perceptions of social trust as the key indicator of subjective social cohesion, asking people about their views on whether other individuals can be trusted or relied upon in case of need. One example is the survey question in the World Values Survey (WVS), also used by the Pew Research Center, in which respondents are asked

> Generally speaking, would you say that most people can be trusted—or—that you can’t be too careful in dealing with people? (Larsen, 2013).

Similar wording has been used in the American General Social Survey (GSS). The American National Election Studies uses another question in combination with the one above to operationalise social trust:

> Would you say that most of the time people try to be helpful, or that they are just looking out for themselves?

The European Social Survey (ESS) also adds a third question for their operationalisation of social trust:

> Do you think that most people try to take advantage of you, or they try to be fair?

Questions asking respondents about their perceptions of social trust have been used in many old surveys, providing the possibility of measuring levels of subjective social cohesion over time (Larsen, 2013). The fact that social trust is such an established concept is mentioned as one of the reasons why it is considered a key indicator of social cohesion (Salmi et al., 2007).

Most studies focused on measuring social trust on a neighbourhood-level. One example of this is a study that measured trust between individuals in English and Welsh neighbourhoods, using the data from the Home Office Citizenship Survey (Letki, 2004). The respondents were asked: “How many people in your neighbourhood can be trusted?” with the answers being (1) Many, (2) Some, (3) Few, and (4) None. This survey item is specific as it is in a form of a question and does not provide the respondents with a statement to which they are to answer with their level of agreement, such as exists in most surveys. For example, another study used data from the Citizenship Survey (CS) 2008-9 and asked respondents about their perceptions of whether their neighbours can be trusted (Saggar et al., 2012). This survey item is almost identical to the WVS item, but it refers to a single neighbourhood instead of ‘most people’ in a society.

Another study, which argued for the analysis of social cohesion on a country-level, proposed measuring social trust by asking the respondents the extent to which they agree with the following statements: (1) Do not trust people so easily in this country, (2) People in this country are always out to take advantage of you, and (3) People in this country are not to be easily trusted (Chan et al., 2006, p. 295). It is interesting to note the negative tone of these statements and the fact that the statements refer to the respondents’ fellow citizens, whereas other survey items on social trust mostly refer to smaller communities. Another study using a country-level operationalisation of social trust linked social trust in Finnish adolescents with their exposure to crime news (Salmi et al., 2007). The study used the survey question from the World Value Survey, but contained an additional question with four items: "there are only a few persons I can fully trust"; "I can usually be certain that people want what’s best for me"; "if I am not careful, other people will take advantage of me"; and "my friends have often betrayed me" (Salmi et al., 2007, p. 262). These items were then combined into a single

measure of social trust.

2.4.2 Operationalisations of Sense of Belonging

Sense of belonging is often mentioned as a factor in the definitions of social cohesion (Bollen & Hoyle, 1990; Chan et al., 2006; Duhaime et al., 2004; Strömbäck, 2015; Grimalda & Tänzler, 2018), and it is used as an indicator of subjective social cohesion (Bollen & Hoyle, 1990; Chan et al., 2006). It is considered as a "multifaceted" concept, as individuals might feel like "they <…> belong to a community, a locality or a nation" (Vasta, 2013, p. 198). Therefore, in order to measure this concept, the survey item needs to specify a group of people (neighbourhood, school, country…) to which the individual might feel a sense of belonging. One example of this is a study that opted for measuring sense of belonging on students from a college "known for its strong school spirit", and on inhabitants of a mid-sized city (Bollen & Hoyle, 1990, p. 488). The study used the 'perceived cohesion scale' and its three indicators for sense of belonging:

I feel a sense of belonging to _____.

I feel that I am a member of the _____ community.

I see myself as part of the _____ community.

The blank spaces were filled in with either the name of the school for the students or the name of the city for its residents. Responses ranged from 0 ("strongly disagree"), 5 ("neutral), to 10 ("strongly agree") (Bollen & Hoyle, 1990, p. 485). Another study operationalised sense of belonging on a neighbourhood-level by using data from both the Citizenship Survey and the British Household Panel Study (Saggar et al., 2012). The respondents were asked whether they feel they belong to their neighbourhood, with the answers being: (1) Very strongly, (2) Fairly Strongly, (3) Not very strongly, and (4) Not at all strongly. One study proposed that the respondents rate their overall sense of belonging to their country from 0-10, and that they rate their agreement with the following statements: (1) I feel proud of being a member of this country, and (2) Despite its many defects this country is still our home (Chan et al., 2006, p. 295). It is important to note that the second statement can be misleading, as some citizens may not agree with the fact that their country has many defects, while others may disagree with referring to their country as their home. Furthermore, one study measured sense of belonging in Sweden, by asking about the respondents' degree of agreement with the following statements: "I feel like a part of Swedish society", and "I feel like I am needed in the Swedish society", with the answers being: (1) Completely disagree, (2) Partly disagree, (3) Partly agree, and (4) Fully agree (Strömbäck, 2017, p. 238).

2.4.3 Operationalisations of Perceived Distances Between Others

Perceiving distances and conflicts between other members in society as being small is one of the indicators of perceiving that society as being cohesive (Strömbäck, 2015). One study used the data from the Citizenship Survey in order to measure this indicator, where the respondents were asked whether they agree "that [their] local area is a place where residents respect ethnic differences between people", with the answers being (1) Definitely agree, (2) Tend to agree, (3) Tend to disagree, and (4) Definitely disagree (Saggar et al., 2012, p. 31). This question can also be rephrased to address other differences between members of society, such as religion, political affiliation, or sexual orientation. An example of this is the Citizenship Survey, in which the respondents were asked if they believe there was "less, more or about the same amount of racial prejudice in Britain today, compared with five years ago", tapping the dimension of sexual orientation within the indicator of perceived distances between others. (Saggar et al., 2012, p. 31).

2.4.4 Operationalisations of Tolerance For Difference

Tolerance for difference, although similar in some ways to the "perceived distances between others" indicator, is a distinct indicator of subjective social cohesion (Jenson, 1998; Strömbäck, 2015; Strömbäck, 2017). On the one hand, the indicator of perceived distances between others tells the story of how an individual views the relationships between groups and/or individuals in society with respect to their differences. On the other hand, the indicator of tolerance for difference explains how an individual feels about coexisting, working, or having deeper relationships with other members and groups in society who are different from himself. Questions about the tolerance for others who are different have mostly been used in neighbourhood-level surveys (Dimeglio et al., 2013). Chan et al. (2006) exempt this indicator of tolerance from their conceptualisation of social cohesion. However, the authors propose asking the respondents about their willingness to cooperate with individuals who are different from them based on their sexual orientation, political affiliation, or social strata (Dimeglio et al., 2013). This question can be understood as an operationalisation of both "willingness to cooperate" and "tolerance for difference". It is an indicator of "willingness to cooperate" as it addresses the individual's motivation to cooperate with others in society, which includes people both similar and different to the respondent in many ways. However, the fact that the question specifies that the "others" are different from the respondent makes a strong case to think of this question as a measure for the indicator of "tolerance for difference" (Dimeglio et al., 2013). Another study measured tolerance for difference by using the following question: “To what extent do you feel affinity with the following groups in Swedish society?“ (1)

People who have a very different economic situation than I, (2) People who have a different ethnic background than I, (3) People who come from a completely different culture than I, (4) People who have a completely different education than I, (5) People with a different sexual orientation than I, (6) People who have completely different political opinions than I, (7) People who have an entirely different lifestyle than I. Possible responses were: (1) No affinity, (2) Not very great affinity, (3) Somewhat great affinity, (4) Very great affinity (Strömbäck, 2017, p. 242).

2.4.5 Summary of Operationalisations of Subjective Social Cohesion

To operationalise subjective social cohesion, most authors used the indicator of social trust, measuring it with a question on the respondents' perceived trustworthiness of others. Although it is embedded in theory, social trust has also been described as a key indicator of subjective social cohesion because it is a long-established concept with universal measures. Sense of belonging was also found to be frequently used as an indicator of subjective social cohesion, although notably less than social trust. The two indicators least used in operationalisations of subjective social cohesion were perceived distances between others, and tolerance for difference. This is not surprising, as these two indicators were not historically regarded as dimensions of social cohesion, but are rather found in modern conceptualisations of subjective social cohesion.

As argued before, there is ground to believe that each of these indicators is in some way related to media use. For example, perceiving neighbours as trustworthy is most likely influenced by direct experiences with them, as they live in close proximity with one another, while perceiving fellow citizens as trustworthy is most likely influenced by their portrayal in the media, as meeting all or most of them would be impossible. Some media scholars recognized this role of the media and attempted to link it with subjective social cohesion. The next section will present how and why the media has been linked with subjective social cohesion.

2.5. Linkage between Media and Subjective Social Cohesion

Our attitudes and perceptions of reality are shaped by many factors. Interpersonal communication, education, and other real-life experiences are just some of the factors which explain how we perceive ourselves and the world around us. However, a key role in explaining these attitudes and perceptions is the media, which the research repeatedly found to be "the primary source of news and political information" (Theorin & Strömbäck, 2019;

Shehata & Strömbäck, 2014). Ever since the early 20th century, mass communication researchers have been investigating the influence of media effects on individuals. At first, these effects were perceived as extremely powerful, influencing beliefs and behaviours simply by disseminating information to a homogenous and passive audience (McQuail, 2010). However, mounting empirical evidence proved media effects to be much more indirect than previously envisioned, effectively ending the powerful media effects phase of mass communication research (Scheufele, 1999). The second, limited media effects phase, found the audience to be much more diverse and heterogenous, and much more resistant to media influence. For example, one prominent theory of this limited media effects phase is the two-step flow of communication theory, which argued that individuals are influenced by media effects not by exposing themselves to media, but mostly through interpersonal communication. Media effects were thus no longer perceived as potent, but rather weak, compared with the initial assessments. Some authors were skeptical towards dismissing the potency of media effects, criticising these studies for their focus solely on short-term media effects (McQuail, 2010). What followed is the transition from short-term to long-term media effect research, and the third phase of media effects research, where the potency of these effects was rediscovered. New theories, explaining and empirically testing media effects rose to prominence. Agenda-setting, cultivation, and framing all aimed to explain how the media influences people's perceptions and behaviours.

The agenda-setting theory describes how the media influences the importance of topics in the eyes of the public. In other words, the public perceives some topics as more important than others as a result of the increased coverage of those topics in the media (McCombs & Reynolds, 2002). For example, media can cover the issue of gang violence more extensively than the issue of climate change. Based on the agenda-setting theory, it can be expected that the audience will place more importance on the issue of gang violence than on the issue of climate change.

The framing theory describes how the media provides context while covering a topic, which can influence the audience's attitudes towards that issue (Scheufele, 1999). For example, one way of covering a city-wide protest can be in terms of public safety concerns, while another way could be in terms of freedom of speech. Different frames of the same topic can be assumed to have different effects on the audience (Scheufele, 1999).

The cultivation theory argues that increased time spent watching television results in

individuals' believing that the social world is similar to the one portrayed on television (Gerbner, 1970). The theory suggests that the TV audience will be subject to similar content for a long period of time, and will thus develop a common perception of the world around them (mainstreaming) (Griffin, 2012). Another key term in this theory is the Mean World Index, which supposes that increased television watching will result in individuals perceiving others as less trustworthy, due to their constant negative portrayal on-screen. As social trust has been described as one of the key indicators of subjective social cohesion, this could be understood as increased exposure to television negatively affecting subjective social cohesion.

The uncharted territory of media and subjective social cohesion

The research on media effects is clear on the fact that "media can exert considerable influence, including over what issues people think are important, how we perceive the issues and actors being covered by the media, the yardsticks we use when assessing political alternatives and reaching political opinions, and how we perceive reality." (Strömbäck, 2015, p. 101). As subjective social cohesion has been repeatedly defined as being comprised of individuals' perceptions of reality, there are reasons to expect that it will be influenced by the media (Strömbäck, 2015). The research investigating the relationship between media and subjective social cohesion is virtually non-existent, not least because of the disagreements on how subjective social cohesion should be conceptualised. Therefore, we will again turn to the indicators of subjective social cohesion in order to gain some insight on how the concept has been linked to media use.

Social trust is often conceptualised as the key indicator of social cohesion, and several authors noted the decline of social trust in the US from the 1960s to 1990s (Uslaner, 1995; Putnam, 1995; Norris, 1996), around the time of the rapid growth of television ownership in private domestic households (Putnam, 1995). The literature commonly addresses the cynical portrayal of real-life by the mainstream media as possibly having a negative impact on social trust and subjective social cohesion in general (Hooghe & Oser, 2015; Iyengar & Kinder, 2010; Mutz, 2007). One study analysed the General Social Survey data from 1974-1994 and found a strong negative correlation between the amount of television watching and social trust, and a strong positive correlation between the amount of newspaper reading and social trust (Putnam, 1995, p. 678). This negative effect was explained by the fact that television takes up time which would otherwise be used for activities that build social trust (Gross et al., 2004; Norris, 1996; Putnam, 1995). However, other authors noted that the relationship between media and social trust is more complicated, and raised the question of the direction of causality in that relationship (Norris, 1996). Those who are not trusting of others may just

as well be more eager to watch television, while more trusting individuals may prefer to read newspapers. Nevertheless, many authors would continue to find links between media and indicators of subjective social cohesion, most often explaining the relationship as media influencing subjective social cohesion. One example is a study that found that greater internet use had a positive effect on social trust, while greater television watching negatively affected levels of social trust (Hooghe & Oser, 2015). As for reading the newspapers, another study found that increased newspaper reading was associated with lower social trust in the UK and the US, which are countries characterized by declining social trust, and higher social trust in Sweden and Denmark, who boast one of the highest levels of social trust in the world (Larsen, 2013). Several Swedish studies found little evidence of the connection between media use and subjective social cohesion (Strömbäck, 2017). However, these studies emphasised the importance of further research into this relationship, arguing that as long as the media landscape continues its' development in terms of increased fragmentation and polarization, there are theoretical reasons to expect the deterioration of subjective social cohesion (Strömbäck, 2017). In most of the studies investigating the relationship between the media and subjective social cohesion, media was found to exert both positive and negative influence. Television watching is mostly negatively associated, while newspaper reading is most often positively associated with subjective social cohesion. Strömbäck (2015) explains how media use can both positively and negatively affect subjective social cohesion. On the one hand, the author notes that media use can positively affect subjective social cohesion to the extent that

> (a) people consume the same or similar media and media content, (b) the media and media content that people expose themselves to supports a sense of shared experience and what unites different groups in society, [and] (c) the media and media content that people expose themselves to supports trust and tolerance (Strömbäck, 2015, p. 102).

On the other hand, the author notes the negative effects of media use on subjective social cohesion to the extent that

> (a) media consumption is fragmented, (b) the media and media content that people expose themselves to provide clearly dissimilar pictures of what reality looks like, and (c) the media and media content that people expose themselves to emphasises or fuels distrust, intolerance and conflict between different groups in society (Strömbäck, 2015, p. 102).

In short, Strömbäck (2015) explains the results of these studies, which found that the media that people expose themselves to can both positively and negatively their subjective social cohesion. As these results are not very straightforward, revisiting this relationship would possibly yield more insight into these effects. With that in mind, this paper will investigate that relationship and formulate its first research question:

RQ1: How is overall media consumption related to subjective social cohesion?

In order to answer this question, we need to dwell deeper into the mechanisms of media consumption. Individuals' preferences of which media they expose themselves to are more significant than ever in explaining these media effects on their subjective social cohesion, as individuals are becoming more selective with the ever-growing number of available media (Strömbäck, 2015). The literature distinguishes between two types of selectivity: "news selectivity", which is the extent to which people wish to expose themselves to news reporting, and "political selectivity", which is the extent to which people's political views and values influence what information sources and information people expose themselves to (Strömbäck, 2015, p. 111; Stroud, 2011; Arceneaux & Johnson, 2013). Studies in the US have shown that political selectivity plays a prominent role in news consumption, resulting in individuals increasingly consuming like-minded media (Strömbäck, 2015). Only taking overall media consumption into account while investigating the relationship between media use and subjective social cohesion would yield limited results due to this growing media selectivity and availability. Not including different media types has been a common critique since 1975 and the cultivation theory (Bryant, 1986), which viewed television as a distributor of homogenous information. Since then, a growing number of studies incorporated the variety of different media outlets in their research due to their increasingly fragmented content and found different effects depending on the media type consumed. Therefore, investigating different media types and specific outlets might provide more insight into individuals' subjective social cohesion, especially for those who are more selective in their media use. There is not much research investigating the relationship between different media types and subjective social cohesion. This thesis will thus investigate whether including different media types in the analysis will show different effects in the relationship between media use and subjective social cohesion. From this, the second research question is formulated:

RQ2: Is there a difference in the relationship between media use and subjective social cohesion depending on the investigated media type?

The reinforcing spirals model

Media scholars worry about the trend of individuals increasingly seeking like-minded media. The literature warns about this phenomenon, as continuously consuming like-minded media can lead to the "balkanization of public space". (Sunstein, 2007; Pariser, 2011; Strömbäck, 2015). Balkanization of public space refers to a process in which groups' attitudes and beliefs about the social world are reinforced based on their continuous search for content on like-minded media, which confirms their perception of reality and diminishes their understanding of differing perceptions of reality (Sunstein, 2007; Strömbäck, 2015). This may lead to an

increasing sense of "us" and "them", increasing the perceived distances between individuals in society, and damaging their subjective social cohesion (Strömbäck, 2015, p. 114). In this case, media use acts as a predictor variable, which may negatively affect perceived distances between others as a result of continuously confirming one's perception of reality, making other worldviews and perceptions of reality seem more distant.

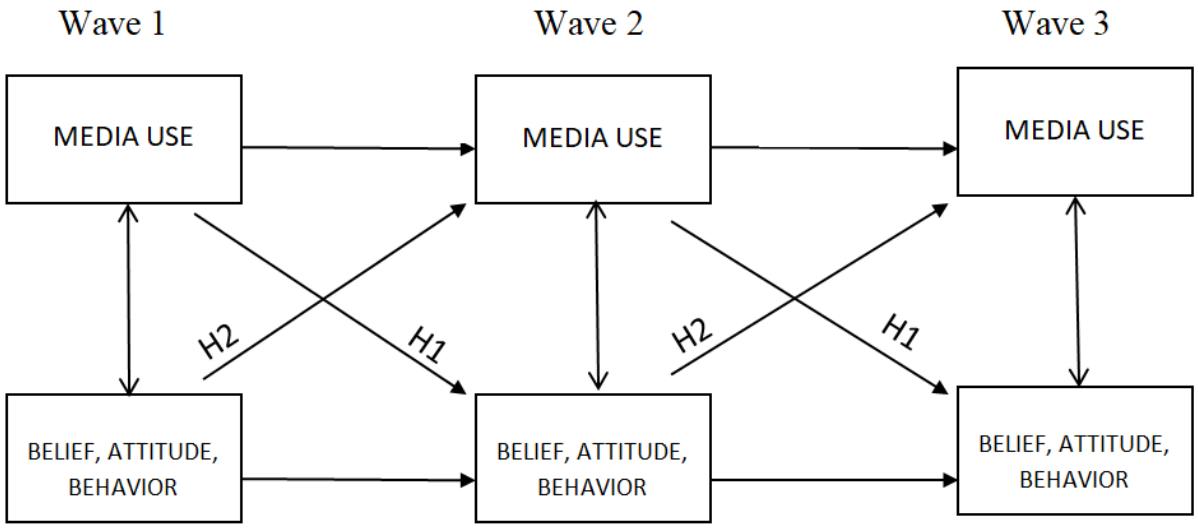
However, Slater's (2015) Reinforcing Spirals Model (later in the text: RSM) introduces the idea that media use functions both as a predictor and an outcome variable in this relationship. In the author's own words: "media use is shaped by social context and individual characteristics" and "media use may, in turn, influence many attitudes and related behaviors" (Slater, 2015, p. 372). Instead of media use solely influencing one's attitudes and beliefs, such as his subjective social cohesion, media use is also shaped beforehand by those attitudes and beliefs. This would mean that individuals choose to expose themselves to media which is in line with their subjective social cohesion, which, in turn, reinforces their subjective social cohesion. The RSM also introduces the second assumption of this relationship, which states that "media selection and effects of exposure to selected media is dynamic and ongoing" (Slater, 2015, p. 372). This means that individuals' exposure to selected media, which is influenced by their attitudes and beliefs, will "influence subsequent strength and accessibility of social group identification, attitudes, and behaviors—which, in turn, will influence subsequent media use, which should continue to reinforce those associated elements of social identity, attitude, and behavior over time" (Slater, 2015, p. 372). In other words, this relationship is explained as a dynamic process between two mutually reinforcing variables, in which exposure to certain media reinforces individuals' attitudes, and individuals' attitudes influence media choice. Slater (2007) highlights that this is a relationship where variables "move forward in time, influencing one another, with the likelihood of reinforcing or cumulative effects" (Slater, 2007, p. 284). The author suggests not to perceive this as a casual relationship in which one predictor variable precedes the outcome variable. Instead, both variables can be taken as a "starting point" in the relationship. In the author's own words: "one can usefully conceptualise and analyze these relationships as two paired and complementary spirals. One spiral begins with the outcome predicting media use and the other spiral begins with media use predicting the outcome" (Slater, 2007, p. 285). Following the RSM, this mutually reinforcing relationship will lead to increased consumption of attitude-consistent media and reinforced beliefs, attitudes, and behaviour over time. Against this background, the following hypotheses are formulated:

H1: Media exposure will, over time, reinforce subjective social cohesion (media effect)

H2: Subjective social cohesion will, over time, reinforce media exposure (selection effect)

H3: The relationship between media exposure and subjective social cohesion will be mutually reinforcing

Figure 1. The reinforcement spirals model by Slater (2007; 2015)



Comment: H3 corresponds to combined effects of H1 in wave 1 and H2 in wave 2, and vice-versa.

Lastly, it is important to note that Slater (2015) warns against conceptualising this model as leading to widespread extreme attitudes and behaviours as a result of continuous reinforcement of attitudes and increasing consumption of like-minded media. The author explains that, in a self-regulating system such as the RSM, individuals will adapt their use of like-minded media according to the level of outside threats towards their attitudes and beliefs. If their views are threatened by i.e. opposing ideologies becoming mainstream, individuals will enhance their use of attitude-consistent media in order to reach what Slater terms as "homeostasis", or a state of balance between outside threat and search of reinforcement of attitudes from the media (Slater, 2015, p. 373). Homeostasis is regarded as the most common state with regards to the relationship between media use and subjective social cohesion (Slater, 2015). However, when "perceived threat to identity is very strong", individuals may feel the urge to reach homeostasis by aggressively seeking like-minded content, which could lead to extreme attitudes and behaviour (Slater, 2015, p. 376).

From theory to empirical research

This chapter presented the field of social cohesion and the various conceptualisations and operationalisations found in relevant literature. The concept was linked with media use, and

several research questions and hypotheses were developed. The next chapter will present the methodology for investigating the relationship between media use and subjective social cohesion.

3. Methodology

3.1 Research approach

In order to investigate the relationship between media use and subjective social cohesion, this thesis will use a quantitative research approach. This provides the possibility of statistically investigating whether media use is reinforced by subjective social cohesion and whether subjective social cohesion is reinforced by media use. This thesis is testing hypotheses based on existing theory (RSM), and will thus follow a deductive approach. This thesis will apply a positivist epistemological position and an objectivist ontological perspective. The former suggests the existence of truth in society, which can be discovered and investigated. The latter puts emphasis on the benefits of accumulating empirical data, which is based on facts. Furthermore, this thesis will analyse data from a longitudinal panel survey. This provides the opportunity to investigate the possible "spiral effects" (Slater, 2007; Slater, 2015), and long-term changes in the relationship between media use and subjective social cohesion.

3.2 Methodology and Data

In order to answer the research questions and the hypotheses, this thesis will rely on a three-wave panel survey conducted in Sweden from 2014 to 2016. The panel study was done within the research project “Changing media environments, changing democracies”, by Jesper Strömbäck. The sample was drawn from the polling firm Novus's pool of web survey participants using stratified probability sampling. The database contains 35,000 residents, and participants were recruited using random digit dialing, as self-recruitment was not allowed. The pool is largely representative of the Swedish population in terms of sociodemographics such as age, gender, and education (Theorin & Strömbäck, 2019). The first wave of the panel study (November 13–25) contained 51 percent of 7,652 invited participants, who were then invited for the second wave (November 12–24, 2015), and, if they participated, were then also invited for the third survey wave (November 10–22, 2016). This thesis will use data based on the 2,254 individuals (29% of the initially invited) who participated in all three panel waves. Using this type of data has several advantages. First, the panel survey contains data targeted to examine the relationship between media use and subjective social cohesion, which this thesis is investigating with its research question. Second, the panel contains data from the same respondents answering the same questions on all three measurements, providing the possibility to track changes in their media use and their levels of subjective social cohesion.

However, there are also disadvantages in using this type of data data. Survey data measures respondents' self-reports, which can be distant from their actual attitudes and behaviours. Also, there may be other factors outside of the data and the research design, influencing individuals' media use and subjective social cohesion, which this thesis will not account for.

In order to analyse the causal and possible reciprocal effects between media use and subjective social cohesion, this thesis will rely on structural equation modelling (SEM) as its panel analytic method. Using SEM provides the opportunity of assessing the direction and the possible reciprocality of influences in this relationship. This will test the effects of media use more thoroughly than studies based on cross-sectional data, as the results will allow causal inferences (Theorin & Strömbäck, 2019; Finkel, 2008).

First, a descriptive analysis will be conducted in order to investigate the respondents' overall media use and their levels of subjective social cohesion. To answer the research questions and the hypotheses, this thesis will estimate cross-lagged panel models (CLPM) using SEM in order to assess whether the direction of causality runs from media use to subjective social cohesion (media effects), from subjective social cohesion to media use (selection effects), or whether there is a reciprocal relationship between media use and subjective social cohesion (both media and selection effects). These CLPM models provide insight on the relationship between media use and subjective social cohesion at each wave, as well as the lagged effects between both variables over time (Acock, 2013; Finkel, 2008).

3.3 Key Variables

This thesis uses media use and subjective social cohesion as two key concepts and operationalises them using multiple survey items identical across three panel waves.

3.3.1 Subjective Social Cohesion

Following the results of the literature review, the concept of subjective social cohesion will be measured by four survey questions, measuring the respondents' perceptions of how much others can be trusted, their sense of belonging to their society, their perceptions of distances between others, and their tolerance for difference. Similar operationalisations were used by Strömbäck (2017).

In order to construct the indexes, we first need to know whether the survey items measure the

same underlying dimension. In order to examine this, a principal component analysis (PCA) was conducted for each of the indexes. The PCA provides the eigenvalue of survey items, which explains how much of the total variance of the items is explained by the first factor (Acock, 2013, p. 92). This thesis followed the Kaisers criterion, which states that components with eigenvalues under 1.0 should be abandoned. Items were analysed, and the PCA revealed a unidimensional structure within all four indicators of subjective social cohesion. Therefore, four indexes were created, each tapping an indicator of subjective social cohesion. In order to test the reliability of the indexes, a measure of internal consistency called Cronbach's alpha was used. It ranges from 0 to 1, and coefficients of 0.7 or higher are considered adequate, as that would mean 70% of the scale is reliable (Cho, 2016).

Perceived distances between others: Nine items are used, measuring respondents' perceptions of divergences between different groups in society. Respondents were given 5 response alternatives ranged between 'No contentions' (1), meaning these distances are perceived as being low, and (5) 'Large contentions', for large perceived distances. The items read: “How great divergences do you experience between the following groups in Sweden?“ (1) Low-paid and highly paid, (2) Young and old, (3) Highly skilled and low-skilled, (4) Heterosexual and homosexual, (5) Unemployed and the employed, (6) Born in Sweden and born abroad, (7) Inhabitants of rural areas and city dwellers, (8) Christians and Muslims, (9) The general people and the elite“. Based on these items, an index was constructed. As the PCA analyses the correlation matrix where each item is standardised to have a variance of 1.0, the eigenvalues combined will add up to 9 (since the index consists of 9 items). The first factor in the PCA is 4.00. This means that this factor is very strong and that these items tap a single dimension. The scale was recoded and reversed, ranging from 1 to 6, with 1 being high, and 6 being low perceived distances between others. This was done so that all of the indicators of subjective social cohesion have their ranges indicating from lower to higher levels of subjective social cohesion. (Wave 1: PCA factor 1 = 4.00, Cronbach’s alpha = 0.84, M = 3.54, SD = 1.08).

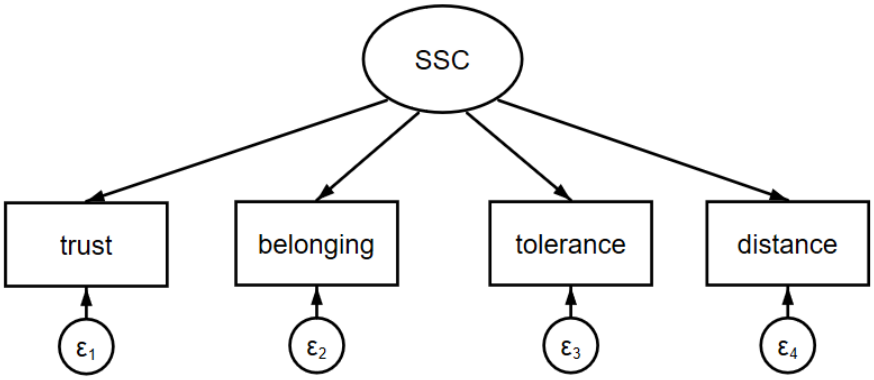
Social trust: In order to measure social trust, a single item is used, which asked the respondents about whether they feel others can be trusted. The item read: “In your opinion, to what extent can people in general be trusted?“ Respondents were given 10 response alternatives ranged between (1) You cannot trust people in general, and, (10) You can trust people in general. (Wave 1: M = 6.68, SD = 2.18)

Tolerance for difference: 7 items were used to measure respondents' tolerance for difference. The survey question read: “To what extent do you feel affinity with the following groups in Swedish society?“ (1) People who have a very different economic situation than I, (2) People who have a different ethnic background than I, (3) People who come from a completely different culture than I, (4) People who have a completely different education than I, (5) People with a different sexual orientation than I, (6) People who have completely different political opinions than I, (7) People who have an entirely different lifestyle than I. Possible answers were: (1) No affinity, (2) Not very great affinity, (3) Somewhat great affinity, (4) Very great affinity. The first factor in the PCA is 3.48 from the possible 7, explaining 50% of the variance in the set of items. Again, we can be confident that these items tap the same underlying dimension. Therefore, an index was constructed and recoded to range from 1 to 7. (Wave 1: PCA factor 1 = 3.48, Cronbach’s alpha = 0.82 M = 4.54, SD = 1.10)

Sense of belonging: Sense of belonging was measured using 2 items which measured the respondents' view of themselves with respect to the Swedish society. The question read: “To what degree do you agree with the following statements?“ (1) I feel like a part of Swedish society, (2) I feel like I am needed in the Swedish society. The answers ranged from (1) Completely disagree, to (4) Fully agree. The first factor in the PCA is 1.60 from the possible 2, explaining 80% of the total variance in the set of items. Therefore, an index was created and recoded to range from 1 to 7 (Wave 1: PCA factor 1 = 1.60, Cronbach’s alpha = 0.74, M = 6.01, SD = 1.37).

To measure subjective social cohesion, this study will merge the four indicators into a single latent variable of subjective social cohesion. This is done to avoid having too many models with each explaining the relationship between each indicator and media use, when this thesis is investigating the more broad phenomenon of subjective social cohesion and its' relationship with media use. In order to have a single variable for subjective social cohesion, a latent variable named “SSC“ was created. The variable consists of four indicators listed above and was created using the 'Add Measurement Component' tool in Stata's SEM Builder (see figure 2).

Figure 2. The latent variable measuring subjective social cohesion



There are several assessments that test whether these indicators (trust, belonging, tolerance, distance) are in fact a reliable measure for the latent variable of subjective social cohesion (SSC). In Stata, a command 'estat gof, stats(all)' was run, and several assessments of fit were found (these assessments of fit will be discussed in more depth later, when the entire model's fit will be assessed). First, the chi-square test ($\chi 2$) displayed a value of .164, with a p-value of .921, which shows a great fit, as the requirement for a good fit are p-values above 0.05. Next, the root mean square error of approximation (RMSEA) showed a value of .000, which also shows an excellent fit, as the criterion for an excellent fit is a value below .05. Last, the CFI test sets the requirement for a good fit at values .95 or higher. For this model, the CFI value is 1.000, which is considered a great fit (Acock, 2013). The 'goodness of fit' results show that these four indicators are in fact tapping the same phenomenon, and are a good measure for subjective social cohesion.

3.3.2 Media use

This study bases its overall media exposure measure on a set of items that measure the frequency of both online and offline use of overall media. All items had 6 response alternatives ranging from daily (=6) to never (=1), and the question read: “How often do you follow the news about politics by...“ (1) Watching TV-news, (2) Reading morning newspapers on paper, (3) Reading tabloids on paper, (4) Listen to news on the radio, (5) Visiting news sites on the Internet, (6) Taking part of news on a cell phone or tablet, (7) Taking part of news via social media such as Twitter or Facebook. An index was constructed based on these items, where a higher value indicates a higher frequency of overall media exposure.

Specific media type use was measured by asking respondents about their use of newspapers, broadcast news, and alternative online media. In the questions regarding newspapers and

broadcast news, respondents were asked about their use in different formats: via traditional form (television, radio, and print), via computer, or via cell phone or tablet. The question measuring newspaper use was “During the last week, how often did you use the following broadsheets and tabloids”?: Dagens Nyheter and Svenska Dagbladet (broadsheets) and Aftonbladet and Expressen (tabloids) (Theorin & Strömbäck, 2019). Respondents were asked about their use of broadcast news media with the question, “During the last week, how often have you used the following TV and radio news?”: Aktuellt and Rapport (public-service television) and TV4 Nyheterna (commercial television) (Theorin & Strömbäck, 2019). About their use of alternative media, the respondents were asked, “In general, how often do you visit the following news sites on the Internet?”: ETC (left-wing, pro-immigration) and Avpixlat (right-wing, anti-immigration) (Theorin & Strömbäck, 2019). After being reversed, all of the response options for media use variables were: Daily (6), 5–6 days a week (5), 3–4 days a week (4), 1–2 days a week (3), more seldom (2), and never (1).

Variables measuring respondents' use of newspapers and broadcast news were recoded so that each respondent was assigned the value which corresponds to the most frequent use of that news media type.[1] For example, somebody who watched the news on television 1-2 days a week, on a computer 3-4 days a week, and on the phone or tablet 5-6 days a week was assigned the value which corresponds to their use of that newspaper on the phone or tablet (Theorin & Strömbäck, 2019).

To construct the variables measuring the use of different media types, an index was created for the use of broadsheets (Dagens Nyheter and Svenska Dagbladet: Cronbach’s alpha 2014 = ,63, 2015 = ,62, and 2016 = ,66), one for use of tabloids (Aftonbladet and Expressen: Cronbach’s alpha 2014 = ,65, 2015 = ,67, and 2016 = ,67), and one for use of public-service television news (Aktuellt and Rapport: Cronbach’s alpha 2014 = ,87, 2015 = ,85, and 2016 = ,87). With respect to commercial television news, the original measure was used since respondents were only asked about one commercial television news show (TV4 Nyheterna). The same holds for the use of alternative media sites (ETC and Avpixlat). Finally, the indices were rescaled to range from 1 = never to 6 = daily to make them comparable with the other media use variables.

[1] This was done by using the Stata command 'gen AQ=AQN1, replace AQ=AQN2 if AQ>AQN2, replace AQ=AQN3 if AQ>AQN3'. AQ represents the recoded variable, AQN1 measures media use on television, AQN2 measures media use on the computer, and AQN3 measures media use on the phone or a tablet.

3.3.3 Control Variables

A set of control variables was added in the models' first wave as they have all been found to have an impact on both media use and subjective social cohesion (Strömbäck, 2015b; 2016; 2017). Age, education, and gender were added as they are all considered classic control variables in media studies, widely used in media and communication research.

The gender variable was recoded into a dummy variable, with the value of (0) for females, and (1) for males.

The control variable of age contains the following values: (1) 18-25 years, (2) 26-35 years, (3) 36-45 years, (4) 46-55 years, (5) 56-65 years, (6) 66-75 years.

The control variable of education, after being recoded to range from lower to higher level of education, had the following response options: (1) Not completed, (2) Elementary school, (3) High school, (4) University.

These control variables are included in the models as influencing both media use and subjective social cohesion at wave 1. They do not have to be included at later waves, as the lagged dependent variables in the cross-lagged models take the value of the prior dependant variable into account (Acock, 2013). In this case, all subsequent variables are controlled for.

Although more control variables could be added, there is a theoretical argument against using many control variables in media effects studies. Slater (2015) argues that including a large number of control variables may minimise the effects of media use, as these variables may not act as control variables, but rather as “third variables providing competing causal explanations“, which can “reduce the actual effects that should be attributed to the role of media use" (p. 376). Furthermore, attempts to include control variables, such as political interest and political ideology, resulted in Stata not being able to estimate the models, bringing up the 'not concave' error. A possible explanation for this may be that the models became too complex with the added control variables.

3.3.3 Sociodemographic factor variables

In order to test the possible differences between different sociodemographic groups with

regard to their subjective social cohesion and media use, several variables will be included in the descriptive analysis.

Work situation: The survey question asking the respondents' about their work situation consisted of the following responses: Student, Employed, Civil servant, Self-employed, Parental leave, Sick leave, Retired, Unemployed, and Other.

Political ideology: Concerning political ideology, the respondents were asked the following question: “Sometimes it is said that political opinions can be placed on a left-right scale. Where would you place yourself on the political left-right scale?“, with the responses ranging from (0) Clearly to the left, (5) being Neither to the left nor to the right, to (10) Clearly to the right.

Political interest: About their interest in politics, the respondents were asked the following question: “How interested are you in general of the following?“, and the relevant response was 'Politics'. The answers were: (1) Not interested at all, (2) Not especially interested, (3) Quite interested, and (4) Very interested.

3.3.4 Data Analysis

The statistical analysis of the data was performed with STATA version 16.0, and this section will describe the statistical techniques used to analyse the descriptive data as well as for the hypotheses testing.

3.3.4.1 Descriptive Statistics

In order to describe the main variables in the model, a descriptive overview will be carried out. This descriptive overview will use means and frequencies to describe the differences between waves and will compare means and standard deviations to locate any possible differences between sociodemographic groups. Skewness and kurtosis tests showed that only variables measuring social trust and left and right-wing alternative media types were not normally distributed. Therefore, all of the other variables were analysed by employing t-test for possible gender differences, and one-way ANOVA for other sociodemographic factors. For the skewed variables, the non-parametric equivalents of t-test and one-way ANOVA were used. The Mann Whitney U test was used instead of the t-test to analyse possible gender

differences, while Kruskal-Wallis test was used instead of one-way ANOVA to analyse possible differences between other sociodemographic factors with regards to the skewed variables.

3.3.4.2 Structural equation modelling

In order to test our hypotheses, structural equation modelling (SEM) was used in several cross-lagged models, each investigating a different media type. Structural equation modelling is a sophisticated and flexible framework for data analysis, especially relevant for this thesis as "it allows one to estimate the relationship between a number of independent and more than one dependent variable at the same time" and allows both "latent independent and dependent variables" to be included in the models (Mehmetoglu & Jakobsen, 2017, p. 294). A structural equation model can be understood both as a structural model, as it shows potential dependencies between exogenous and endogenous variables, and as a measurement model, as it shows how the relationship between the latent variable and its' indicators. Furthermore, as this thesis uses panel data, it will analyse this data using a cross-lagged panel model. Using panel data allows the researcher to analyse the same individual across different time periods, and this model allows the analysis of different variables based on that data. The cross-lagged panel model also allows the estimation of relationships between variables which might be reciprocal. This is highly relevant for this thesis as it is investigating the possible reciprocal relationship between media use and subjective social cohesion. This model also allows for the analysis of over-time changes from the predictor variable to the outcome variable, as it takes the lagged value of the former into account (Dahlgren et al., 2019; Strömbäck & Shehata, 2019).

3.3.4.3 Model fit

As mentioned before, both the latent variable and the cross-lagged panel model need to be assessed in order to see if they are a good fit. As the latent variable was shown to be a good fit, now we turn to assess the fit of the cross-lagged panel models. Running the Stata command ‘estat gof, stats(all)’, several approaches of assessing fit are presented: chi-square test ($\chi 2$), root mean square error of approximation (RMSEA), and Comparative Fit Index (CFI). The chi-square test determines whether there is a statistically significant difference between our model and a saturated model, in which the model fits the data ideally (Acock, 2013). This approach will show a good fit if the p-value is above 0.05. However, this test is sensitive to large sample sizes. As this study uses a fairly large sample (2,254), more focus

will be put on other approaches of assessing fit. Next, the CFI compares "our model with a baseline model that assumes there is no relationship among our <…> observed indicator variables" (Acock, 2013, p. 55). In order to be considered a good fit, a model should have its CFI value over .95. The root mean square error of approximation (RMSEA) serves as a warning when a model may be over-fitted with unnecessary complexity (Acock, 2013). It ranges from zero to one, and values of .05 can be considered as a sign of a good fit, whereas values of .08 are considered acceptable.

In order to estimate the models, all of the residuals belonging to each of the four indicators of the latent variable named subjective social cohesion were allowed to covary in all waves, as well as the residuals of the latent variables between waves 1 and 2 (see table 1). Furthermore, running the "estat mindices" command in Stata, the software recommended certain modification indices, which can improve the fit of the models. Looking for high numbers and recommended paths that also have theoretical grounding, two modifications were made. A path was added from the media use variable in wave 1 to media use variable in wave 3, as well as a path from subjective social cohesion variable in wave 1 to subjective social cohesion variable in wave 3. The models were now a good fit under all of the standard criteria with the exception of the X^2 test, due to its' large sample size.

Table 1. Goodness of fit after adjusting the model (incl. controls)

	Overall media consumption	Tabloids	Broadsheets	Public service TV	Left-wing alternative	Right-wing alternative
X^2 (df)	430.7	365.6	379.2	524.5	372.9	389.2
P-value	.000	.000	.000	.000	.000	.000
RMSEA	.036	.032	.033	.041	.033	.034
CFI	.979	.984	.983	.975	.982	.982

Note. The adjusted models include the two main variables in all three waves (media type variable, and subjective social cohesion variable). The model controls for gender, age, and education.

3.3.4.4 Validity

External validity is the extent to which the findings of one study can be generalized to other scientific contexts, including people, situations, and settings (Mitchell & Jolley, 2012). The respondents from the data used in this study were recruited by probability sampling, which is one of the conditions for external validity. The sample size was quite large (2254), and 29% of all respondents participated in all three survey waves. According to previous analyses using these data, respondents are largely representative of the Swedish population in terms of sociodemographic factors (Theorin & Strömbäck, 2019), and I argue that the findings of this study can be generalised to the total population of Sweden. However, it is important to note that the Swedish media system and the levels of subjective social cohesion in Swedish citizens may differ significantly from other countries. Therefore, one should be hesitant to generalise the findings beyond the Swedish landscape.

Internal validity is the extent to which the study design and method are appropriate for the proposed measurements (Mitchell & Jolley, 2012). For this study, the most important factors of internal validity are the operationalisations of the concepts and the lag waves and time between waves. I argue that both the concept of media use and subjective social cohesion are satisfactorily operationalised. Some may find this operationalisation of subjective social cohesion too narrow, while others may see it as too broad. However, this study follows operationalizations from both previous research (Strömbäck, 2017) and the literature review. Therefore, I argue that this operationalisation serves as an appropriate measure for this study. As for the latent variable containing four indicators of subjective social cohesion, it was found to be a statistically appropriate measure for the concept.

The lag time between the three survey waves is one year. There have been discussions about media effects and selective exposure as influencing each other much quicker than this. Also, increasing the number of waves may provide deeper insight into this relationship. However, most studies have investigated RSM using three waves with the lag time of one year, which is considered a viable technique of analyzing data using the model.

4. Results

4.1 Descriptive overview of data

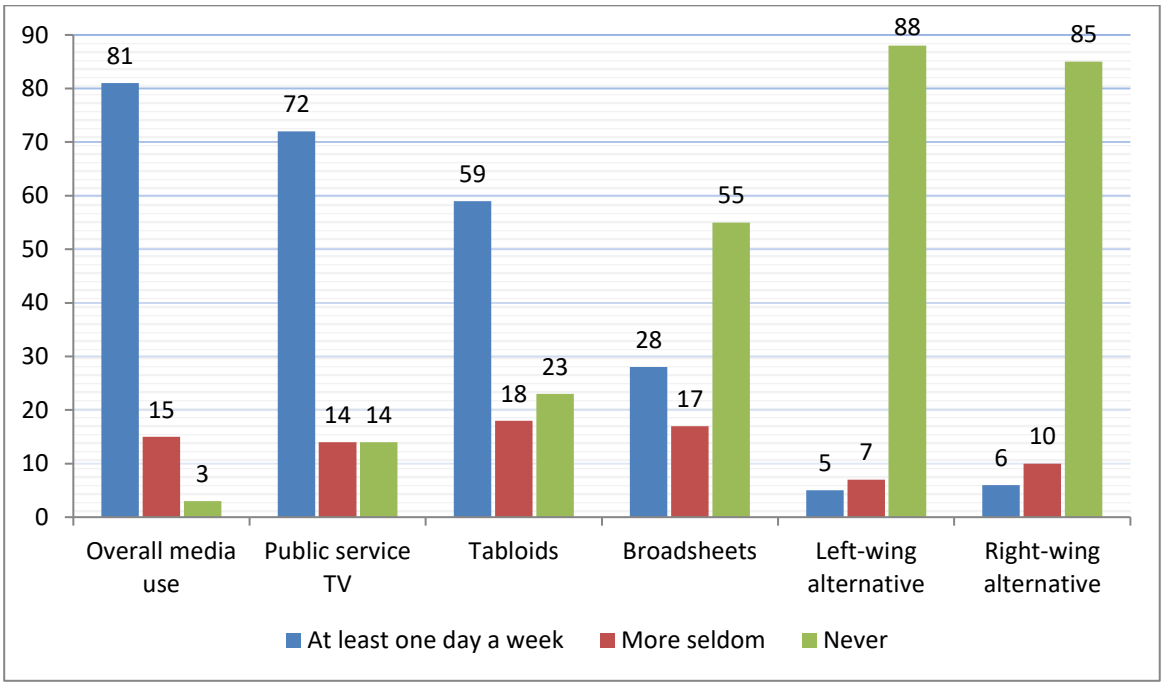
Before presenting and discussing the result of the analysis, this section will present a descriptive overview of the main variables in the models. The differences between waves will be presented, as well as the differences between sociodemographic groups.

4.1.1 Media use

This section will present the descriptive statistics of the media use variable. As the statistics describing media use have small differences across waves, only descriptives from wave 1 will be presented (see figure 3, waves 2 and 3 in Appendix). Again, the variable of media use consists of 6 different measures: overall media use, public service TV, tabloids, broadsheets, left-wing alternative media, and right-wing alternative media.

In general, Swedish citizens regularly consume some type of media, as 81% of respondents' answers correspond to consuming media at least one day a week. The mean was 3.39 (SD = 1.04), and all scales range from 1 to 6. Next, we take a look into the use of certain media types. Public service TV is viewed by 72% of respondents at least one day a week, while 14% of respondents answered that they never consume this type of media (M = 3.66, SD = 1.70). Tabloids are regularly consumed by 59% of respondents, while 41% consume it more seldom or never (M = 3.13, SD = 1.86). Broadsheets are mostly avoided by the Swedish citizens, with only 28% of respondents consuming it on some platform one day a week, while 72% use it more rarely or not at all (M = 1.98, SD = 1.38). Finally, alternative media is found to be very rarely consumed by Swedes. The left-wing alternative media outlet *ETC* only has 5% of respondents consuming once a week, with 88% of respondents answering that they never use the media outlet (M = 1.21, SD = .70). For the right-wing alternative media outlet *Avpixlat,* 6% of respondents answered with consuming it at least one day a week, while 85% never consuming this media outlet (M = 1.28, SD = .84).

Figure 3. Use of the Investigated Media Outlets Year 2014 (Percentages)



Note: N = 2,254. The reason why all media outlets do not add up to 100 is that the percentages are rounded to whole numbers. "At least one day a week" includes the following response options: daily, 5-6 days a week, 3-4 days a week, and 1-2 days a week.

Turning to how various media type exposure differs between sociodemographic groups, we can see some clear differences (see table 4). For example, factors that increase the likelihood of seeking overall media exposure are: being male, being old, self-employed, interested in politics, and being ideologically right-wing. The differences between these groups with regards to overall media exposure are all statistically significant.

Next, factors that increase the likelihood of seeking public service TV exposure are: being male, having a low level of education, being old, being retired, and being interested in politics. Other than political ideology, all of these differences between groups are statistically significant.

Factors that increase the likelihood of seeking broadsheet media exposure are: being male, having a low level of education, being self-employed, being ideologically right-wing, being interested in politics. The differences between these groups with regards to overall media exposure are all statistically significant.

Turning to tabloid media exposure, factors that increase the likelihood of exposure to this media type are: being male, having a low level of education, being middle-aged, being ideologically right-wing, and interested in politics. Only the factor of work situation is not statistically significant with regards to tabloid media exposure.

As the variables of left-wing alternative media outlet (M = 1.21, SD = 0.70) and of right-wing alternative media outlet (M = 1.28, SD = 0.84) are extremely negatively skewed, they are not appropriate for neither the t-test nor the one-way ANOVA test. Therefore, the Mann-Whitney U and the Kruskal Wallis tests were performed to see whether the differences in sociodemographic groups were statistically significant. For left-wing alternative media, all of the differences except gender were significant, whereas for right-wing alternative media, only education level was not significant.

In summation, there are several factors repeatedly found to be positively associated with exposure to various media types. Being male, being old, being ideologically right-wing, and being interested in politics are all found to increase the likelihood of exposure to various media types.

Table 4. Sociodemographic factors within various media type exposure (wave 1)

		Overall media use		Public service TV		Broadsheets		Tabloids		Left-wing alternative	Right-wing alternative
	N	(Mann/Kruskal)		(Mann/Kruskal)		(Mann/Kruskal)		(Mann/Kruskal)		(Mann/Kruskal)	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD		
Gender		(.0000***)		(.0129*)		(.0000***)		(.0006***)		(.0619)	(.0000***)
Female	1106	3.27	1.07	3.57	1.72	1.81	1.25	3.01	1.65		
Male	1148	3.51	1.00	3.75	1.66	2.15	1.47	3.26	1.70		
Education		(.0031**)		(.0001***)		(.0001***)		(.0001***)		(.0003***)	(.0653)
Not completed	4	3.50	1.29	3.75	0.96	2.00	1.15	2.75	1.26		
Elementary school	185	3.37	1.10	4.27	1.70	1.43	0.85	3.54	1.54		
High school	960	3.30	1.06	3.57	1.72	1.69	1.18	3.26	1.69		
University	1105	3.48	1.00	3.64	1.65	2.33	1.51	2.96	1.68		
Age		(.0001***)		(.0001***)		(.0001***)		(.0090**)		(.0001***)	(.0001***)
18-25 years	185	2.70	0.98	2.12	1.26	1.79	1.17	2.77	1.46		
26-35 years	434	3.29	1.07	2.66	1.45	2.12	1.38	3.03	1.59		
36-45 years	336	3.45	1.03	3.19	1.52	1.99	1.99	3.29	1.64		
46-55 years	474	3.41	1.06	3.73	1.55	1.78	1.78	3.29	1.75		
56-65 years	350	3.48	0.98	4.47	1.45	1.85	1.85	3.12	1.68		
66-75 years	475	3.63	0.93	4.85	1.29	2.22	2.22	3.14	1.78		
Work situation		(.0001***)		(.0001***)		(.0001***)		(.0662)		(.0001***)	(.0001***)
Student	180	2.89	0.98	2.33	1.36	2.16	1.44	2.83	1.51		
Employed	537	3.24	1.09	3.21	1.60	1.50	0.98	3.26	1.61		
Civil servant	727	3.54	0.99	3.52	1.59	2.15	1.45	3.17	1.70		
Self-employed	108	3.68	1.02	4.02	1.64	2.47	1.59	3.15	1.87		
Parental leave	31	3.29	1.19	3.26	1.53	2.23	1.65	2.94	1.53		
Sick leave	92	3.04	1.06	4.10	1.80	1.59	1.01	3.28	1.69		
Retired	451	3.61	0.93	4.84	1.28	2.19	1.50	3.08	1.76		
Unemployed	85	3.08	1.10	3.53	1.78	1.82	1.32	3.12	1.58		
Other	43	3.30	1.01	3,72	1.98	1.88	1.16	2.72	1.80		
Political ideology		(.0001***)		(.2506)		(.0001***)		(.0118*)		(.0001***)	(.0001***)
Clearly to the left	195	3.52	0.99	3.51	1.72	1.79	1.12	3.09	1.63		
1	132	3.23	0.96	3.55	1.76	1.76	1.13	2.80	1.60		
2	187	3.41	1.03	3.48	1.74	1.87	1.33	3.16	1.52		
3	215	3.37	0.99	3.68	1.58	1.75	1.24	2.98	1.64		
4	195	3.41	1.10	3.64	1.82	1.82	1.33	3.11	1.70		
Neither left nor right	369	3.12	1.11	3.63	1.73	1.80	1.25	3.12	1.74		
6	168	3.36	0.96	3.57	1.68	2.20	1.53	2.96	1.57		
7	269	3.43	1.01	3.76	1.56	2.37	1.56	3.10	1.69		
8	261	3.51	0.99	3.72	1.58	2.17	1.47	3.28	1.73		
9	110	3.59	1.08	3.94	1.74	2.21	1.43	3.50	1.74		
Clearly to the right	153	3.63	1.06	3.92	1.83	2.10	1.49	3.53	1.79		
Political interest		(.0001***)		(.0001***)		(.0001***)		(.0083**)		(.0001***)	(.0001***)
Very interested	514	3.83	0.95	4.12	1.69	2.68	1.63	3.32	1.73		
Quite interested	991	3.54	0.94	3.82	1.63	2.01	1.34	3.15	1.69		
Not especially interested	561	3.01	0.96	3.30	1.62	1.50	0.98	3.04	1.63		
Not interested at all	188	2.52	1.09	2.65	1.62	1.32	0.81	2.87	1.61		

***p<0.001. **p<0.01. *p<0.05. Comment: The table presents the frequency, mean and standard deviation of the index measuring different media type exposure for all groups within each sociodemographic factor. Mann Whitney U test was performed for gender while Kruskal-Wallis was used on the other factors. Source: Novus – web panel survey

4.1.2 Subjective Social Cohesion

The second main variable in this paper is subjective social cohesion. The table (see table 5) presents results based on the respondents' answers regarding each of the indicators of subjective social cohesion.

Generally, Swedes perceive others in their society as trustworthy. This is not surprising, as previous research (Larsen, 2013) took Sweden as an example of a country with high levels of social trust. Furthermore, Swedes have a strong feeling about being a part of and being needed in the Swedish society. These values are stable across all three waves.

Overall, Swedes perceive distances between different groups in society as being small rather than big. However, these perceptions differ greatly depending on groups in question. For example, the lowest perceived distances are found between the young and the old, and between heterosexuals and homosexuals (higher median values correspond to lower perceived distances). Although modest, the perceived distances between the young and the old are growing with each wave, whereas the differences between homosexuals and heterosexuals are dropping.

The highest perceived distance is found between those who are born in Sweden and those who are born abroad. This item also has one of the highest drops in median value between waves, meaning that the perceived distances are growing. The most significant drop is between wave 2 in 2015 and wave 3 in 2016. It is also noteworthy to mention the drop in median values between wave 2 and wave 3 for the item concerning the perceived distances between the general people and the elite, which is the highest drop with regard to other items.

In order to measure tolerance for difference, the respondents were asked about their levels of affinity toward different groups in society. Overall, Swedes seem to be tolerant of all of the groups in question. They feel the most affinity towards those who have a completely different education with regards to themselves, and the least affinity towards those who come from a completely different culture with regards to theirs. The values are mostly stable across all waves, except for the items regarding those with completely different cultures and those with different ethnic background, where the values slightly drop between each wave. It would be interesting to analyse data collected after the third wave (2016), to see if these drops are continuing and starting to show a negative trend, which could be harmful to subjective social cohesion over a longer period of time.

Table 5. Indicators of subjective social cohesion, 2014-2016 (mean values).

	2014	2015	2016
Social trust[a]			
In your opinion, to what extent can people in general be trusted?	6.72	6.72	6.70
	(2.17)	(2.26)	(2.21)
Sense of belonging[b]			
I feel like a part of Swedish society	3.66	3.65	3.65
	(0.65)	(0.63)	(0.63)
I feel like I am needed in the Swedish society	3.35	3.34	3.33
	(0.84)	(0.839	(0.84)
Perceived distance between others[c]			
Low-paid and highly paid	2.89	2.97	2.92
	(1.07)	(1.03)	(1.03)
Young and old	3.63	3.60	3.56
	(0.96)	(0.98)	(0.99)
Highly skilled and low-skilled	3.19	3.27	3.19
	(1.02)	(1.00)	(1.01)
Heterosexual and homosexual	3.51	3.62	3.67
	(0.96)	(0.94)	(0.94)
Unemployed and the employed	3.20	3.28	3.26
	(1.10)	(1.03)	(1.03)
Born in Sweden and born abroad	2.72	2.73	2.58
	(1.01)	(1.00)	(1.01)
Inhabitants of rural areas and city dwelllers	2.89	3.02	2.85
	(1.05)	(1.08)	(1.07)
Christians and Muslims	2.86	2.82	2.78
	(1.20)	(1.17)	(1.16)
The general people and the elite	2.91	2.91	2.71
	(1.11)	(1.12)	(1.09)
Tolerance for difference[b]			
People who have a very different economic situation than I	2.71	2.74	2.72
	(0.65)	(0.65)	(0.66)
People who have a different ethnic background than I	2.65	2.61	2.59
	(0.72)	(0.73)	(0.73)
People who come from a completely different culture than I	2.49	2.46	2.43
	(0.75)	(0.76)	(0.76)
People who have a completely different education than I	2.91	2.92	2.92
	(0.60)	(0.61)	(0.62)
People with a different sexual orientation than I	2.78	2.78	2.82
	(0.78)	(0.79)	(0.79)
People who have completely different political opinions than I	2.66	2.61	2.61
	(0.67)	(0.69)	(0.68)
People who have an entirely different lifestlye than I	2.54	2.52	2.51
	(0.67)	(0.70)	(0.71)
N	2,254	2,254	2,254

Note: Cell entries show mean values with standard deviations in parenthesis. Higher values indicate higher levels of subjective social cohesion. [a] = scale ranges from 1 to 10, [b] = scale ranges from 1 to 4, [c] = scale ranges from 1 to 5.

Turning to how levels of subjective social cohesion differ between sociodemographic groups, there are some significant differences (see table 6). For example, the factors that increase the likelihood of feeling a strong sense of belonging are: having a high level of education, being old, being a civil servant, being moderately ideologically right-wing, and being interested in politics. Other than gender, all of these differences between groups, with regards to sense of belonging, are statistically significant.

Next, the factors that increase the likelihood of perceiving distances between others as being small (higher mean corresponds to lower perceived distances) are: being male, having a high level of education, being middle-aged, being self-employed, being ideologically right-wing, and being interested in politics. All of these differences between groups, with regards to perceived distances between others, are statistically significant.

Turning to the factors that increase the likelihood of being tolerant towards individuals who are different, these factors are: being female, having a high level of education, being young, and being a student. All of these differences between groups, with regards to tolerance for difference, are statistically significant.

As the variable of trust ($M = 6.72$, $SD = 0.70$) is positively skewed, it is not appropriate for neither the t-test nor the one-way ANOVA test. Therefore, the Mann-Whitney U and the Kruskal Wallis tests were performed to see whether the differences in sociodemographic groups were statistically significant. All of the differences, with the exception of gender, were found to be statistically significant.

In summation, there are few factors that are repeatedly found to be positively associated with indicators of subjective social cohesion. The factors of having a high education level and being interested in politics are found to increase the likelihood of having higher levels of subjective social cohesion.

Table 6. Sociodemographic factors within subjective social cohesion (wave 1)

		Sense of belonging		Perceived distances between others		Tolerance for difference		Trust
	N	(Mann/Kruskal)		(Mann/Kruskal)		(Mann/Kruskal)		(Mann/Kruskal)
		Mean	SD	Mean	SD	Mean	SD	
Gender		(.2158)		(.0000***)		(.0000***)		(.8829)
Female	1106	6.04	1.33	3.46	1.10	4.70	1.04	
Male	1148	5.99	1.34	3.64	1.04	4.39	1.14	
Education		(.0001***)		(.0001***)		(.0001***)		(.0001***)
Not completed	4	5.25	2.87	3.25	1.71	3.75	2.06	
Elementary school	185	5.87	1.38	3.29	1.18	4.21	1.28	
High school	960	5.84	1.40	3.47	1.11	4.42	1.10	
University	1105	6.18	1.24	3.66	1.01	4.71	1.04	
Age		(.0001***)		(.0046**)		(.0196*)		(.0001***)
18-25 years	185	5.64	1.62	3.35	1.09	4.72	1.15	
26-35 years	434	5.85	1.38	3.51	1.02	4.66	1.11	
36-45 years	336	6.06	1.40	3.71	1.01	4.60	0.99	
46-55 years	474	6.07	1.41	3.55	1.13	4.48	1.10	
56-65 years	350	6.11	1.27	3.53	1.12	4.49	1.10	
66-75 years	475	6.14	1.05	3.56	1.06	4.42	1.13	
Work situation		(.0001***)		(.0001***)		(.0026**)		(.0001***)
Student	180	5.72	1.59	3.42	1.01	4.76	1.09	
Employed	537	5.89	1.38	3.44	1.10	4.52	1.13	
Civil servant	727	6.39	1.02	3.73	0.99	4.65	1.00	
Self-employed	108	6.26	1.02	3.92	1.00	4.48	1.10	
Parental leave	31	6.29	1.22	3.81	1.05	4.61	1.05	
Sick leave	92	4.67	2.02	3.00	1.20	4.30	1.20	
Retired	451	6.08	1.06	3.57	1.09	4.42	1.12	
Unemployed	85	5.00	1.65	2.98	1.07	4.22	1.31	
Other	43	5.47	1.79	3.47	1.20	4.65	1.25	
Political ideology		(.0002***)		(.0001***)		(.0043**)		(.0001***)
Clearly to the left	195	6.06	1.40	3.29	1.04	4.63	1.05	
1	132	6.02	1.30	3.61	1.18	4.67	1.04	
2	187	5.94	1.49	3.26	0.96	4.60	1.06	
3	215	6.07	1.24	3.51	1.02	4.49	1.18	
4	195	5.98	1.29	3.39	1.01	4.64	1.00	
Neither left nor right	369	5.64	1.53	3.33	1.11	4.38	1.15	
6	168	6.19	1.16	3.83	1.04	4.70	1.05	
7	269	6.19	1.12	3.77	0.95	4.63	1.03	
8	261	6.14	1.23	3.87	1.04	4.56	1.00	
9	110	6.16	1.17	3.70	0.99	4.48	1.22	
Clearly to the right	153	6.00	1.45	3.62	1.28	4.29	1.35	
Political interest		(.0001***)		(.0001***)		(.0173*)		(.0001***)
Very interested	514	6.20	1.23	3.60	1.14	4.57	1.07	
Quite interested	991	6.08	1.26	3.61	1.07	4.59	1.05	
Not especially interested	561	5.92	1.37	3.51	1.06	4.53	1.13	
Not interested at all	188	5.37	1.68	3.18	1.06	4.24	1.32	

***p<0.001. **p<0.01. *p<0.05. Comment: The table presents the frequency, mean and standard deviation of the index measuring different indicators of subjective social cohesion for all groups within each sociodemographic factor. Mann Whitney U test was performed for gender while Kruskal-Wallis was used on the other factors. Source: Novus – web panel survey

Overall, Swedes exhibit moderately high levels of subjective social cohesion, especially with regards to social trust, and sense of belonging. As the relevant theoretical background suggests, these levels might be partially explained by investigating the respondents' media use. In order to investigate the relationship between subjective social cohesion and media use, the next section will present the findings of the cross-lagged models analysing the reciprocal relationship between subjective social cohesion and various types of media exposure.

4.2 Results & hypotheses testing

Descriptive analyses notwithstanding, the key research problem of this study is related to the relationship between media use and subjective social cohesion. As argued before, the relevant theoretical framework for this study is the reinforcing spirals model, in which the relationship between media use and subjective social cohesion is explained as a dynamic process between two mutually reinforcing variables, where exposure to media reinforces individuals' attitudes, and individuals' attitudes influence media choice. Either of the two variables can be taken as a starting point when investigating this relationship (Slater, 2015).

This section will present the findings from the cross-lagged models analysing the possible reciprocal and dynamic relationship between various types of media exposure and subjective social cohesion. It will attempt to answer both research questions and test related hypotheses, which will be discussed in the following chapter.

The first research question concerns the relationship between overall media use and subjective social cohesion, and states:

RQ1: How is overall media consumption related to subjective social cohesion?

The RSM argues for a mutually reinforcing relationship between overall media use and subjective social cohesion, and the three hypotheses will test whether there is empirical evidence for this relationship.

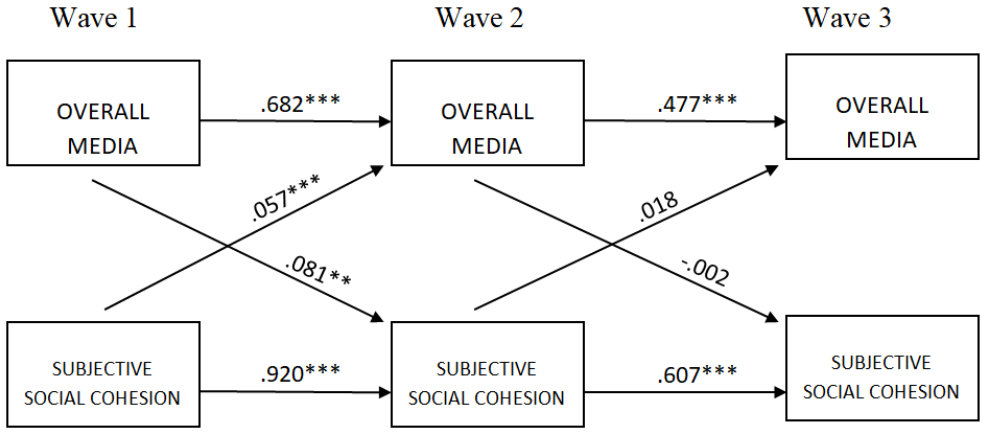
H1: Media exposure will, over time, reinforce subjective social cohesion (media effect)
H2: Subjective social cohesion will, over time, reinforce media exposure (selection effect)
H3: The relationship between media exposure and subjective social cohesion will be mutually reinforcing

As the field of media effects has shown the importance of investigating different media types, the second research question concerns whether the relationship between media use and subjective social cohesion differs depending on the investigated media type:

RQ2: Is there a difference in the relationship between media use and subjective social cohesion depending on the investigated media type?

In order to answer RQ1, all three hypotheses 1, 2, and 3 argue that there are both reinforcing media and selection effects in the relationship between media exposure and subjective social cohesion. The results of the analysis are shown in figure 4 and table 7. The findings from the cross-lagged panel analysis investigating overall media exposure show that there are both statistically significant media and selection effects between overall media exposure and subjective social cohesion between waves 1 and 2, but no such effects were found between waves 2 and 3. This means that increased overall media exposure in wave 1 resulted in higher levels of subjective social cohesion 2 (b=.081, p<.01), and that higher levels of subjective social cohesion in wave 1 resulted in increased overall media exposure in wave 2 (b=.057, p<.001). These mutual effects of media exposure and subjective social cohesion between waves 1 and 2 are not found between waves 2 and 3, and can thus only give partial support to hypotheses 1 (media effects) and 2 (selection effects), and partial to hypothesis 3 (mutually reinforcing relationship).

Figure 4. Cross-lagged effects between subjective social cohesion and overall media exposure

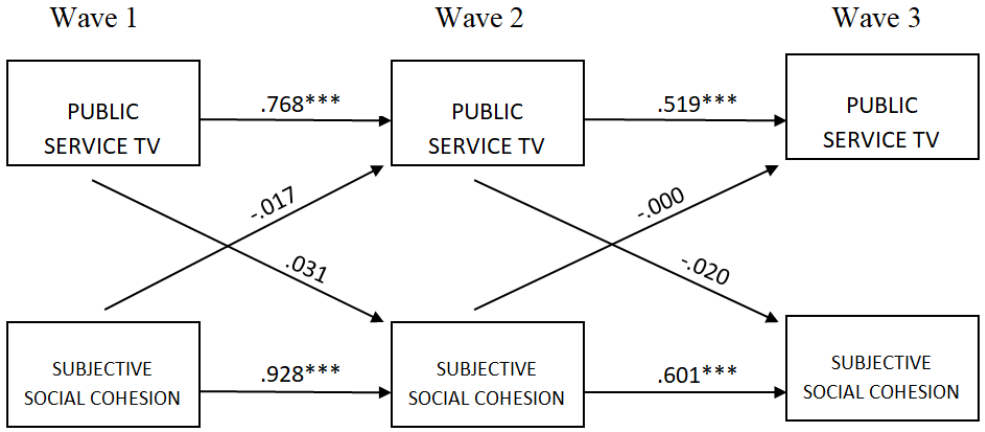


***p<0.001. **p<0.01. *p<0.05. Comment: Estimates are standardized path coefficients. Correlations between all residuals, except between the latent variables in waves 1 and 2, were allowed at each panel wave (not shown in the figure, see table 7). Path between wave 1 and wave 3 was added for both variables after running the goodness of fit command in Stata. Variables of gender, education, and age are controlling both key variables at wave 1. N=2254. X2 = 430.7, RMSEA: .036, CFI: .979.

The second research question addresses whether the relationship between frequent media exposure and subjective social cohesion varies depending on the investigated media type. The following models will attempt to answer this question using cross-lagged panel models containing various media types. The results are shown in figures 5, 6, 7, 8, 9 as well as in table 7. In short, the findings suggest that there are significant differences in the relationship between media use and subjective social cohesion depending on which media type was investigated.

For public service TV, no statistically significant media or selection effects were found between waves. This implies that the level of subjective social cohesion does not predict or reinforce public service TV exposure and that consuming public service TV does not influence or reinforce subjective social cohesion. The findings based on this model do not show a mutually reinforcing relationship between media use and subjective social cohesion and cannot give support to any of the three hypotheses.

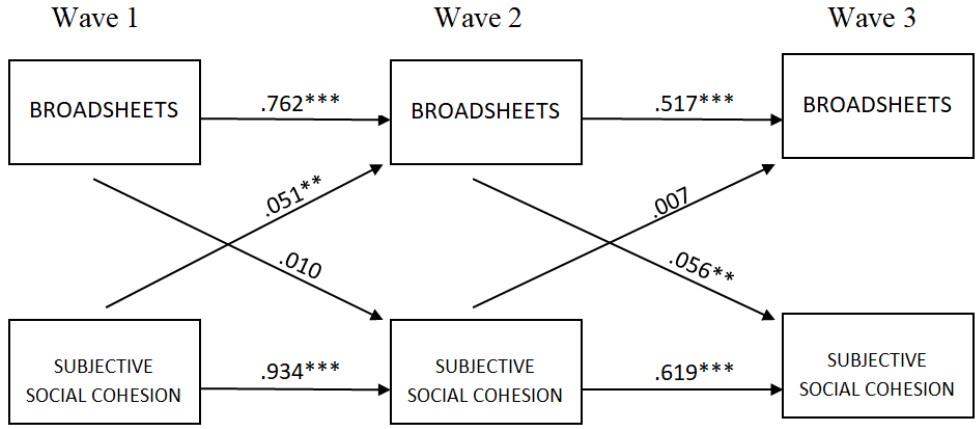
Figure 5. Cross-lagged effects between subjective social cohesion and public service TV media exposure



***p<0.001. **p<0.01. *p<0.05. Comment: Estimates are standardized path coefficients. Correlations between all residuals, except between the latent variables in waves 1 and 2, were allowed at each panel wave (not shown in the figure, see table 7). Path between wave 1 and wave 3 was added for both variables after running the goodness of fit command in Stata. Variables of gender, education, and age are controlling both key variables at wave 1. N=2254. X2 = 524.5, RMSEA: .041, CFI: .975.

Next, there seems to be a mutually reinforcing relationship between broadsheet media exposure and subjective social cohesion. The findings show that a higher level of subjective social cohesion at wave 1 is associated with an increased broadsheet media exposure at wave 2 (b=.051, p<.01), which in turn is associated with a higher level of subjective social cohesion at wave 3 (b=.056, p<.01). However, when the broadsheet media exposure is taken as a starting point, these effects are not found. As the selection effect is only found between waves 1 and 2, and the media effect is only found between waves 2 and 3, hypotheses 1, 2, and 3 are only partially supported by this model.

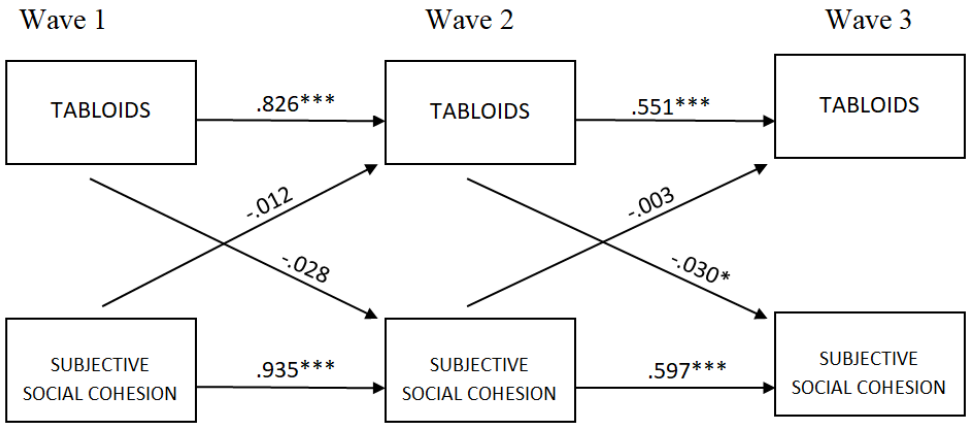
Figure 6. Cross-lagged effects between subjective social cohesion and broadsheet media exposure



***p<0.001. **p<0.01. *p<0.05. Comment: Estimates are standardized path coefficients. Correlations between all residuals, except between the latent variables in waves 1 and 2, were allowed at each panel wave (not shown in the figure, see table 7). Path between wave 1 and wave 3 was added for both variables after running the goodness of fit command in Stata. Variables of gender, education, and age are controlling both key variables at wave 1. N=2254. X2 = 379.2, RMSEA: .033, CFI: .983.

The cross-lagged panel model investigating tabloid media exposure did not provide any statistically significant results regarding the mutually reinforcing relationship between tabloids media exposure and subjective social cohesion. However, it did yield one statistically significant negative media effect between tabloid exposure at wave 2 and subjective social cohesion at wave 3 (b=-.030, p<.05). This means that increased tabloid exposure at wave 2 resulted in lower levels of subjective social cohesion at wave 3. Given the fact that this effect was found only between waves 2 and 3, hypothesis 1 is partially supported and hypotheses 2 and 3 are not supported by this model.

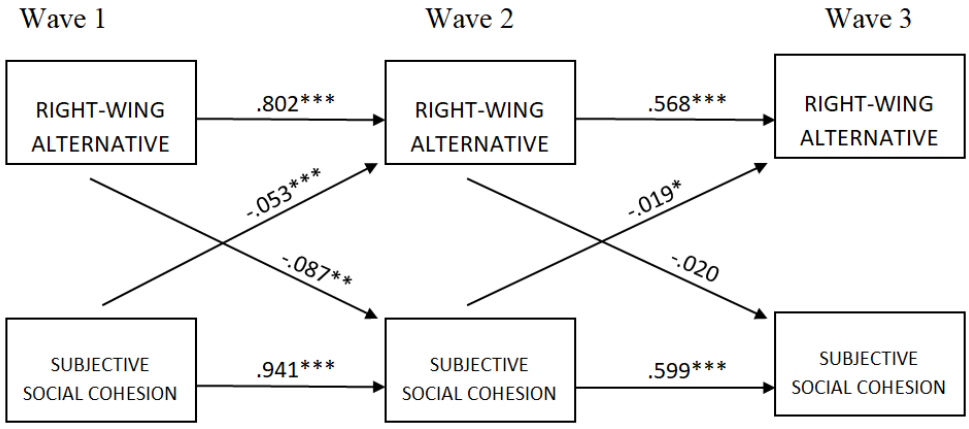
Figure 7. Cross-lagged effects between subjective social cohesion and tabloid media exposure



***p<0.001. **p<0.01. *p<0.05. Comment: Estimates are standardized path coefficients. Correlations between all residuals, except between the latent variables in waves 1 and 2, were allowed at each panel wave (not shown in the figure, see table 7). Path between wave 1 and wave 3 was added for both variables after running the goodness of fit command in Stata. Variables of gender, education, and age are controlling both key variables at wave 1. N=2254. X2 = 365.6, RMSEA: .032, CFI: .984.

For right-wing alternative media exposure, a negative selection effect was found between both waves 1 and 2, and between waves 2 and 3 (b=-.053, p<.001 and b=-.019, p<.05). This means that individuals with higher levels of subjective social cohesion at waves 1 and 2 were less likely to consume the right-wing alternative media at waves 2 and 3, respectively. Also, a negative media effect was found between right-wing alternative media exposure at wave 1 and subjective social cohesion at wave 2 (b=.087, p<.01), which means that individuals with higher exposure to right-wing alternative media at wave 1 had lower levels of subjective social cohesion at wave 2. No such effect was found between waves 2 and 3. Hypothesis 1 can thus be partially supported, while hypothesis 2 is fully supported by this model. These findings suggest there is a mutually reinforcing relationship between right-wing alternative media exposure and subjective social cohesion, as the findings show that right-wing alternative media exposure at wave 1 is associated with a lower level of subjective social cohesion at wave 2 (b=-.087, p<.01), which in turn is associated with higher exposure to right-wing alternative media exposure at wave 3 (b=-.019, p<.05). However, hypothesis 3 is only partially supported as no such relationship was found when subjective social cohesion was taken as a starting point.

Figure 8. Cross-lagged effects between subjective social cohesion and right-wing alternative media exposure

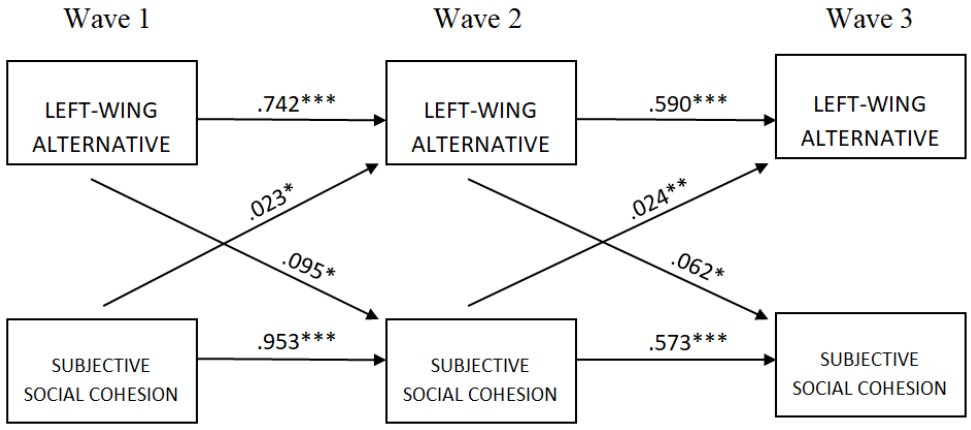


***p<0.001. **p<0.01. *p<0.05. Comment: Estimates are standardized path coefficients. Correlations between all residuals, except between the latent variables in waves 1 and 2, were allowed at each panel wave (not shown in the figure, see table 7). Path between wave 1 and wave 3 was added for both variables after running the goodness of fit command in Stata. Variables of gender, education, and age are controlling both key variables at wave 1. N=2254. X2 = 389.2, RMSEA: .034, CFI: .982.

For left-wing alternative media exposure, a positive selection effect was found between both waves 1 and 2, and between waves 2 and 3 (b=.023, p<.05 and b=.024, p<.01). This means that individuals with higher levels of subjective social cohesion at waves 1 and 2 were more likely to consume the left-wing alternative media at waves 2 and 3, respectively. Also, a positive media effect was found between both wave 1 and 2, and between wave 2 and 3

(b=.095, p<.05 and b=.062, p<.05), which means that individuals with higher exposure to left-wing alternative media at wave 1 and 2 had higher levels of subjective social cohesion at wave 2 and 3, respectively. Both hypotheses 1 and 2 are fully supported by this model. These findings also suggest there is a mutually reinforcing relationship between left-wing alternative media exposure and subjective social cohesion, taking either of the variables as the starting point. That means hypothesis 3 can also be fully supported by this model.

Figure 9. Cross-lagged effects between subjective social cohesion and left-wing alternative media exposure



***p<0.001. **p<0.01. *p<0.05. Comment: Estimates are standardized path coefficients. Correlations between all residuals, except between the latent variables in waves 1 and 2, were allowed at each panel wave (not shown in the figure, see table 7). Path between wave 1 and wave 3 was added for both variables after running the goodness of fit command in Stata. Variables of gender, education, and age are controlling both key variables at wave 1. N=2254. X2 = 372.9, RMSEA: .033, CFI: .982.

Table 7 contains all of the values in the six cross-lagged models of subjective social cohesion and media use. The bolded text refers to the dependent variables, below which are its' independent variables. Figure 10 is presented to aid the reader in understanding table 7. The dotted lines represent paths from variables in wave 1 to variables in wave 3 (the values between variables in wave 2 and wave 3 are lower because these added paths explain some of that relationship). Again, these paths were added based on the recommendation by the Stata's 'estat mindices' command, which helps to improve model fit.

Figure 10. An example of a cross-lagged model between subjective social cohesion and media exposure

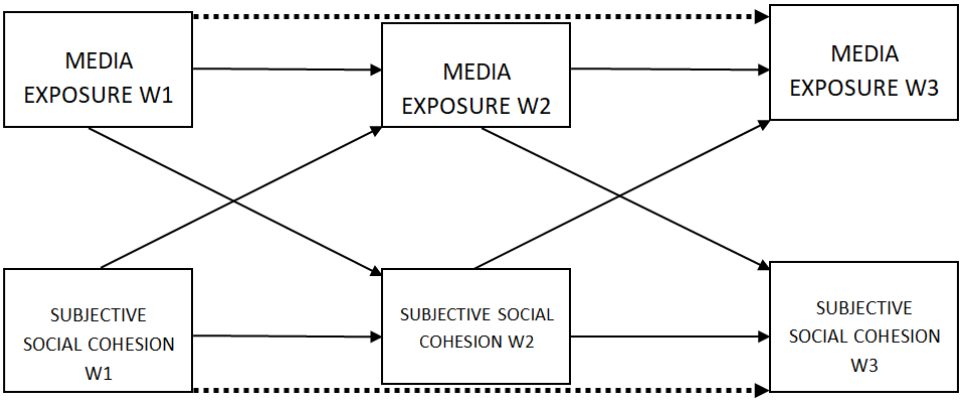


Table 7. Cross-lagged models of subjective social cohesion and media use (full models incl. control variables)

	Overall Media	Tabloids	Broadsheets	Public Service TV	Left-wing broadsheet	Right-wing broadsheet
Media exposure w1						
Gender	.224***	.213**	.389***	.060	.057	.239***
	(.043)	(.071)	(.056)	(.056)	(.029)	(.035)
Education	.160***	-.259***	.556***	.029	.053*	-.013
	(.033)	(.055)	(.044)	(.047)	(.023)	(.027)
Age	.124***	.024	.048**	.558***	-.055***	-.037**
	(.013)	(.022)	(.017)	(.019)	(.009)	(.011)
Media exposure w2						
Subjective social cohesion w1	.057***	-.012	.051**	-.017	.023*	-.053***
	(.014)	(.019)	(.017)	(.021)	(.010)	(.011)
Media exposure w1	.682***	.826***	.762***	.768***	.742***	.802***
	(.015)	(.013)	(.013)	(.014)	(.016)	(.014)
Media exposure w3						
Subjective social cohesion w2	.018	-.003	.007	-.000	.024**	-.019*
	(.012)	(.016)	(.015)	(.018)	(.009)	(.009)
Media exposure w2	.477***	.551***	.517***	.519***	.590***	.568***
	(.019)	(.020)	(.020)	(.019)	(.020)	(.018)
Media exposure w1	.335***	.319***	.326***	.365***	.253***	.259***
	(.019)	(.020)	(.020)	(.019)	(.022)	(.019)
Subjective social cohesion w1						
Gender	-.105	-.096	-.100	-.100	-.102	-.096
	(.073)	(.074)	(.074)	(.074)	(.073)	(.074)
Education	.632***	.639***	.641***	.640***	.637***	.640***
	(.060)	(.060)	(.060)	(.060)	(.060)	(.060)
Age	.130***	.132***	.131***	.122***	.130***	.124***
	(.025)	(.025)	(.025)	(.026)	(.024)	(.025)
Subjective social cohesion w2						
Media exposure w1	.081**	-.028	.010	.031	.095*	-.087**
	(.026)	(.016)	(.020)	(.016)	(.038)	(.032)
Subjective social cohesion w1	.920***	.935***	.934***	.928***	.953***	.941***
	(.067)	(.067)	(.068)	(.068)	(.067)	(.067)
Subjective social cohesion w3						
Media exposure w2	-.002	-.030*	.056**	-.020	.062*	-.020
	(.023)	(.014)	(.017)	(.014)	(.031)	(.027)
Subjective social cohesion w2	.607***	.597***	.619***	.601***	.573***	.599***
	(.085)	(.088)	(.088)	(.088)	(.087)	(.088)
Subjective social cohesion w1	.286**	.295**	.265**	.293**	.319**	.289**
	(.089)	(.092)	(.092)	(.091)	(.092)	(.091)
N	2254	2254	2254	2254	2254	2254
Var						
ε1	1.758	1.783	1.770	1.763	1.762	1.777
ε2	2.755	2.730	2.742	2.748	2.747	2.739
ε3	1.298	1.311	1.303	1.309	1.306	1.313
ε4	1.026	1.025	1.026	1.023	1.026	1.023
ε5	1.018	1.017	1.018	1.016	1.017	1.016
ε6	.401	.406	.409	.402	.399	.396
ε7	2.923	2.873	2.885	2.906	2.878	2.895
ε8	1.136	1.158	1.154	1.149	1.156	1.156
ε9	1.064	1.063	1.064	1.063	1.062	1.060
ε10	1.027	1.024	1.025	1.025	1.025	1.024
ε11	.177	.181	.179	.177	.180	.396
ε12	3.13	3.089	3.098	3.124	3.102	3.118
ε13	1.239	1.260	1.257	1.252	1.254	1.256
ε14	1.087	1.084	1.085	1.082	1.081	1.079
ε15	.943	.941	.942	.940	.944	.941
ε16	1.018	2.784	1.736	2.057	.480	.687
ε17	.537	1.003	.740	1.167	.285	.322
ε18	.424	.860	.685	.990	.261	.234

Cov						
	ε2. ε7	.004	.037	-.064	.009	.031	.000
	ε2. ε12	-.056	-.036	-.015	-.046	-.005	-.031
	ε3.ε8	.602	.619	.613	.613	.615	.618
	ε3.ε13	.628	.645	.640	.639	.638	.642
	ε4.ε9	.588	.587	.588	.586	.586	.584
	ε4.ε14	.570	.568	.569	.566	.566	.564
	ε5.ε10	.472	.470	.471	.470	.471	.469
	ε5.ε15	.453	.451	.451	.450	.453	.451
	ε7.ε12	1.603	1.563	1.574	1.592	1.573	1.586
	ε8.ε13	.627	.647	.644	.640	.644	.644
	ε9.ε14	.596	.594	.594	.592	.592	.590
	ε10.ε15	.490	.488	.489	.488	.490	.488
	ε1.ε6	.051	.051	.051	.055	.019	.020
X^2							
	Chi^2	430.7	365.6	379.2	524.5	372.9	389.2
	P-value	.000	.000	.000	.000	.000	.000
RMSEA		.036	.032	.033	.041	.033	.034
CFI		0.979	.984	.983	.975	.982	.982
R^2		.148	.114	.171	.353	.119	.120

***p<0.001. **p<0.01. *p<0.05. Comment: Results from cross-lagged structural equation model using maximum likelihood with missing values estimation. Estimates are standardized path coefficients and standard errors are in parentheses. Correlations between all residuals, except between the latent variables in waves 1 and 2, were allowed at each panel wave. ε16 – ε18: Media exposure W1-3, ε1 – ε15: Subjective social cohesion W1-3. RMSEA: root mean square error approximation, CFI: comparative fit index. Source: Novus – web panel survey

4.3 Summary of hypothesis testing

In summation of the hypothesis testing, this study mostly found partial support for the three hypotheses. Although most of the models were found to have statistically significant media and selection effects, these effects were not found between all waves, and thus cannot be taken as clear evidence of the reinforcing relationship between media use and subjective social cohesion.

Table 8. Summary of hypothesis testing

	Overall Media	Tabloids	Broadsheets	Public Service TV	Left-wing alternative	Right-wing alternative
H1: media effects	PS	PS	PS	NS	FS	FS
H2: selection effects	PS	NS	PS	NS	FS	PS
H3: mutually reinforcing relationship	PS	NS	PS	NS	FS	PS

FS = fully supported; PS = partially supported; NS = not supported

5. Discussion and conclusion

This study aimed to examine the relationship between subjective social cohesion and media use. More specifically, this study examined the possible mutually reinforcing relationship between subjective social cohesion and media use. First, the concept and the field of social cohesion was introduced. Although a widespread agreement on the importance of the concept was discovered, what surfaced as the most common theme surrounding the discussion on social cohesion was found to be the lack of consensus on the conceptualisation of social cohesion. This study argued for conceptualising and operationalising the concept as a subjective phenomenon. Furthermore, the study tested whether different media types had an impact on the relationship between media use and subjective social cohesion. It did so using the RSM and structural equation modelling as its' statistical method. This chapter will present the key findings, which will be described and discussed within the context of contemporary literature on social cohesion. The final section will present the conclusion, research contributions of the study, possible limitations, and directions for future research.

5.1 Discussion

5.1.1 Relationship between overall media use and subjective social cohesion (RQ1)

The first research question targeted the relationship between overall media use and subjective social cohesion. The results suggest that overall media exposure positively affects subjective social cohesion, as a statistically significant media effect was found between waves 1 and 2. The results also suggest that positive subjective social cohesion increases overall media exposure, as a statistically singificant selection effect was found between waves 1 and 2. The results are not so straightforward, however, as neither of these effects were found between waves 2 and 3. This could be due to many reasons, one of them being individuals seeking to reach homeostasis between waves 1 and 2, but not between waves 2 and 3. Slater (2015) explained that individuals need to feel a state of balance between the outside threats to their beliefs and their search of reinforcement of attitudes from the media. It could be the case that between wave 1 and 2, these individuals felt their beliefs were being threatened by outside factors, and thus felt the urge to seek reinforcement through overall media exposure, while this may not have been the case between wave 2 and 3. Furthermore, these results do not suggest that there is a mutually reinforcing relationship between overall media use and subjective social cohesion. The most obvious explanation for this would be the fact that we

live in a high-choice media environment, where overall media exposure is no longer an appropriate measure for people's media diets. As argued before, the ever-growing media availability and selectivity urges the change from conceptualising people's media exposure from overall to specific. This will be discussed more in the next section.

Furthermore, there are several reasons for revisiting the relationship between overall media use and subjective social cohesion, although there some exists previous research investigating this relationship. First, previous research was mostly focused on only one causal direction in the relationship, where overall media exposure influences some indicator of subjective social cohesion (Hooghe & Oser, 2015; Iyengar & Kinder, 2010; Mutz, 2007). This study, however, used the RSM in order to investigate the possible reciprocal and mutually reinforcing relationship between overall media use and subjective social cohesion. This technique of analysis provides valuable insight on the problem of the direction of causality in the relationship. As the result indicate, there are both selection and media effects in the relationship. Second, most of the previous research used cross-sectional data and simple regression models to investigate this relationship, whereas this study used panel data and structural equation modelling to investigate the possible *changes* in that relationship over time. To be fair, there are advantages in using cross-sectional data. Identifying appropriate lag times for selection and exposure effects for panel analysis can be difficult, and using cross-sectional data helps to bypass this potential issue. However, analysis based on cross-sectional data provides limited results, as it is it can only capture short-term media effects. This study followed academic papers which used the RSM, and found that one year lag-length was most commonly used. Moreover, this study is concerned with *changes* in media use and subjective social cohesion, and is thus not concerned with short-term effects. Third, this study is unique as it combines the indicators of subjective social cohesion used in previous research and creates a single latent variable in order to investigate it as a phenomenon. Although conceptualising social cohesion as a subjective phenomenon is gaining more prominence in recent papers, previous studies have been focused on on its' theoretical grounding and conceptualisation, rather than on operationalisation and measurability of the concept.

5.1.2 Difference in the relationship between media use and subjective social cohesion depending on media type (RQ2)

The second research question concerned whether there will be a difference in the relationship between media use subjective social cohesion depending on which media type is investigated. The findings suggest that there are in fact significant differences in the relationship depending on the investigated media type.

For example, taking publice service TV as the investigated media type in the relationship, no statistically significant effects of either selection or media were found. This suggests that consuming public service TV does not predict or reinforce subjective social cohesion, and that subjective social cohesion does not influence or reinforce seeking public service TV exposure. As there are no such effects, this relationship cannot be reciprocal or mutually reinforcing.

In the model investigating the relationship between broadsheet media exposure and subjective social cohesion, however, a mutually reinforcing relationship was found when subjective social cohesion was taken as a starting point. This means that individuals who had higher levels of subjective social cohesion at wave 1 were increasingly seeking broadsheet media exposure at wave 2, which then reinforced their level of subjective social cohesion at wave 3. However, these effects are not so straightforward, as this relationship was not found when broadsheet exposure was taken as a starting point. Therefore, stating that broadsheet media exposure and subjective social cohesion are mutually reinforcing would not be entirely valid. A possible explanation for this lack of effects could be the fact that broadsheet media exposure is just one of many various media in individuals' overall media consumption. Although individuals are increasingly selective in their media exposure, the structural equation models in this study only investigated single media types, and certain combinations of media types could have shown significant effects. This applies to all of the models investigating certain media types.

For tabloids, only one media effect was found between wave 2 and 3. It means that individuals with increased tabloids exposure at wave 2 had their level of subjective social cohesion lowered at wave 3.

The most significant effects in the relationship between media use and subjective social cohesion were found when alternative media type was investigated. For example, the results suggest that right-wing alternative media and subjective social cohesion have a negative reinforcing relationship. Selection effects between waves 1 and 2, and between waves 2 and 3 were negative, meaning that individuals with higher levels of subjective social cohesion at waves 1 and 2 were less likely to consume the right-wing alternative media in waves 2 and 3, respectively. Also a negative media effect between waves 1 and 2 suggests that individuals who had increased right-wing alternative media exposure at wave 1 had lower levels of subjective social cohesion at wave 2. A negative mutually reinforcing relationship was found when right-wing alternative media exposure was taken as a starting point. This serves as

another evidence of the differences in the relationship between media use and subjective social cohesion depending on the investigated media type (RQ2). As stated before, overall media exposure have been found to have positive reinforcing relationship with subjective social cohesion, whereas right-wing alternative media type is obviously negatively associated with subjective social cohesion. One of the reasons for this might be the fact that the chosen outlet measuring the use of right-wing alternative media type (Avpixlat) is "characterized by anti-immigration sentiments, emotional agitation, polarization, and "us against them" frames" (Theorin & Strömbäck, 2019, p. 8). Using other outlets as a measure for this media type might provide different results.

Notably, the relationship between left-wing alternative media and subjective social cohesion had opposite effects, as all of the discovered statistically significant effects were positive. Selection effects between waves 1 and 2, and between waves 2 and 3 were positive, meaning that individuals with higher levels of subjective social cohesion at waves 1 and 2 were more likely to consume the left-wing alternative media at waves 2 and 3, respectively. Additionally, media effects between waves 1 and 2, and between waves 2 and 3 were positive, meaning that individuals who had higher exposure to left-wing alternative media at waves 1 and 2 had higher levels of subjective social cohesion at waves 2 and 3, respectively. The results suggest that there is in fact a mutually reinforcing relationship between left-wing alternative media and subjective social cohesion. This is the only model in which this type of relationship was found with either concept taken as a starting point.

Evidently, the models investigating alternative media types were found to have the most significant effects in this relationship between media use and subjective social cohesion. This can serve as a highlight on the importance of including different media types when investigating this relationship. Furthermore, it is important to note that the chosen right-wing alternative media, Avpixlat (now identified as Samhällsnytt), is known as being clearly anti-immigration, and focused on issues related to immigration, while the left-wing alternative media ETC is more balanced in its issue coverage (Theorin & Strömbäck, 2019). This could be of importance as immigration has been a highly politicised issue in Sweden since 2015 (wave 2 of the panel data), and individuals might have sought these media outlets more during this time in order to inform themselves on the topic.

Nevertheless, the number of individuals consuming these alternative media types is extremely little. In wave 1, only 6% of individuals followed Avpixlat 1 day a week or more, and almost the same share of respondents followed ETC 1 day a week or more. This means that the findings, based on the models containing alternative media, can be generalised to only a small

portion to the Swedish population that consumes alternative media regularly. The only significant effects concerning a large share of the respondents were found in the model containing the overall media exposure, whereas the effects found in the model containing broadsheets media exposure concern a fairly large share of the respondents (28% consume it 1 day a week or more).

5.2 Conclusion

The academic field investigating media use and social cohesion is largely uncharted territory, not least because the literature on social cohesion is still, although notably less than before, focused on the issues of conceptualisation. In order to preserve social cohesion, it needs to be studied, and in order for it to be studied, it needs to have a concept that is both accepted by most authors and measurable across societies, countries, and cultures. This conclusion is not novel, but it serves as a reiteration of former calls for consolidation of the concept of social cohesion. This study argues that conceptualising and investigating social cohesion as a subjective phenomenon is both (1) easy to measure, as individual assesments, flawed as they may be, are a proven method of quantitative analysis, and (2) appropriate, as these assessments are what matters in the long run with regards to social cohesion (Strömbäck, 2015, p. 99)

Media use was found to have a significant role in explaining the dynamics of subjective social cohesion. As this study has shown, including different media types while investigating this relationship is important as the results differ depending on the investigated media type. Overall, media use was found to have a positive relationship with subjective social cohesion, except for the right-wing alternative media type. More research should focus on the dynamics of this one negative relationship between right-wing alternative media and subjective social cohesion. Although this concerns a small share of the population, social cohesion encompasses all citizens in a society, and none should be or feel excluded, as it hurts social cohesion as a whole. On the one hand, media scholars, focused on cultivation studies, may investigate the content of these types of alternative outlets and possibly gain more understanding on the negative effects of cultivation. On the other hand, media scholars, focused on selective exposure, may investigate the individuals' urge to seek these types of media outlets.

5.3 Limitations and directions for future research

Limitations

Although this study has given significant contributions to the research field, it has several limitations that need to be addressed. The first possible limitation concerns the panel study design. The data used in this study had a long length of lags between each wave (1 year). Some media effects may take much shorter to influence individuals' behaviour and perceptions, and are thus better investigated using cross-sectional data (Slater, 2007). However, this is usually the case when these changing perceptions are not very stable, which is not the case with subjective social cohesion. As we have seen in the descriptive analysis, indicators of subjective social cohesion are more or less stable throughout the three waves, with some minor exceptions. Furthermore, this study is concerned with long-lasting perception change, which makes the longer length of lags more appropriate. Second, this study developed a conceptualisation of social cohesion as a subjective phenomenon, distancing itself from some studies, and following others in this approach. Although this comes with certain benefits, which were discussed in this study, there are also limitations associated with this approach. The most obvious limitation is the fact that measuring social cohesion as a subjective phenomenon can significantly differ from the objective levels of social cohesion. For example, individuals' perceptions of crime rates, a commonly used indicator of social cohesion in the policy approach, may be quite far from the actual crime rates in a society. This may be due to many reasons, one of them being exposure to media. An individual who consumes a media outlet which focuses its coverage on crime may perceive crime rates as higher than they are in reality. Third, this study does not measure the heterogenous media consumption habits of respondents. For example, individuals might combine public service TV with tabloids in their regular media diets, which is something that can be expected, but is not analysed by this study. Fourth, this study is based on data collected from respondents in Sweden. As shown before, Sweden is a country that is commonly referred to as having high social trust, and overall high levels of social cohesion. Also, the Swedish media system and issue coverage may differ significantly from other countries. As we have seen, Sweden and Denmark mostly portray other citizens as belonging in the same class, while the U.S. and UK do the opposite (Larsen, 2013). Therefore, the results of this study can only be generalised to Sweden, and possibly to countries that share similar issue coverage and portrayal of relevant actors in the media.

Directions for future research

First, as mentioned throughout this study, the field investigating the relationship between media use and subjective social cohesion is largely uncharted territory. This is mostly due to the lack of consensus regarding the conceptualisation of social cohesion in the relevant literature. This study proposes that media scholars investigate social cohesion as a subjective phenomenon. Investigating the relationship between individuals' media use and objective indicators of social cohesion is not an appropriate study design, as the two factors may not be associated in any way, whereas subjective social cohesion has been commonly associated with media use, such as in this study. This comes with certain risk, however, as individuals may have a distorted view about their perceptions and behaviours. Therefore, future studies might want to investigate this relationship in a more controlled environment. Second, future research should follow the approach of this study in terms of investigating this relationship using panel data, as subjective social cohesion and media use are not subject to immediate change in most cases. Searching for more lasting effects might uncover some positive or negative trends, which may point out to devising policies with the aim of fostering social cohesion. Third, future studies should include various media types when investigating this relationship, as this study has shown clear differences in the relationship depending on the investigated media type. Fourth, this research field would benefit greatly from investigating this relationship in other countries, as findings from this study may be significantly different from other context. For example, overall media use in other countries may be negatively associated with subjective social cohesion, while it was positively associated in Sweden.

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Appendices

Appendix 1.

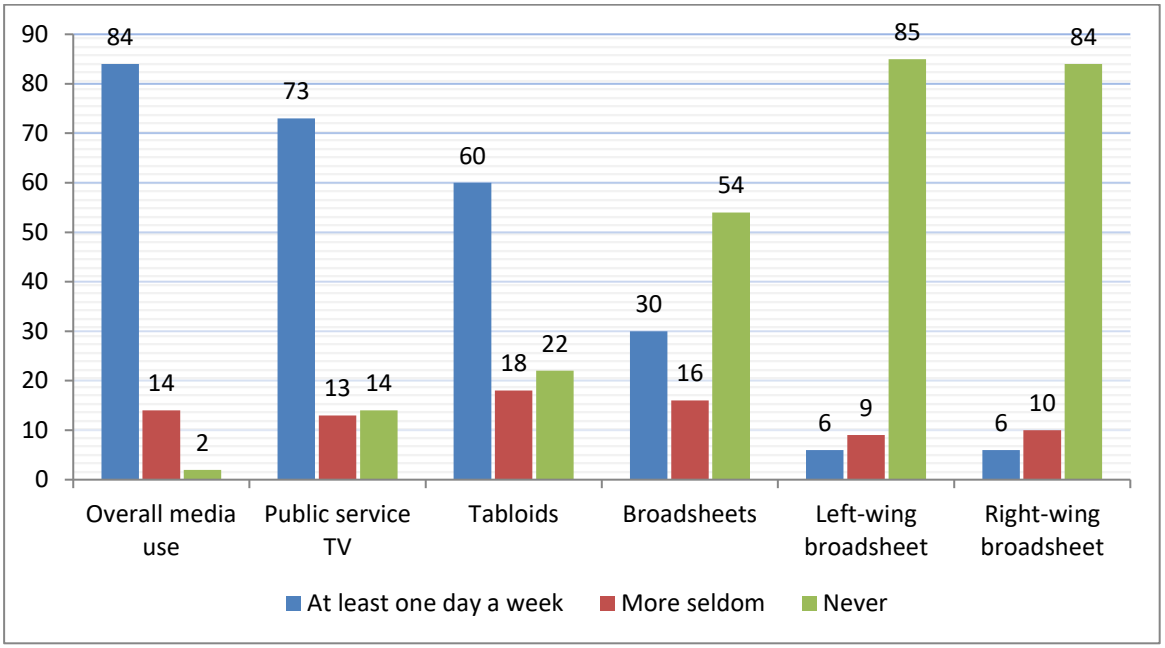

Figure 11 Use of the Investigated Media Outlets Year 2015 (Percentages)
Note: N = 2,254. The reason why all media outlets do not add up to 100 is that the percentages are rounded to whole numbers. "At least one day a week" includes the following response options: daily, 5–6 days a week, 3–4 days a week, and 1–2 days a week.

Appendix 2.

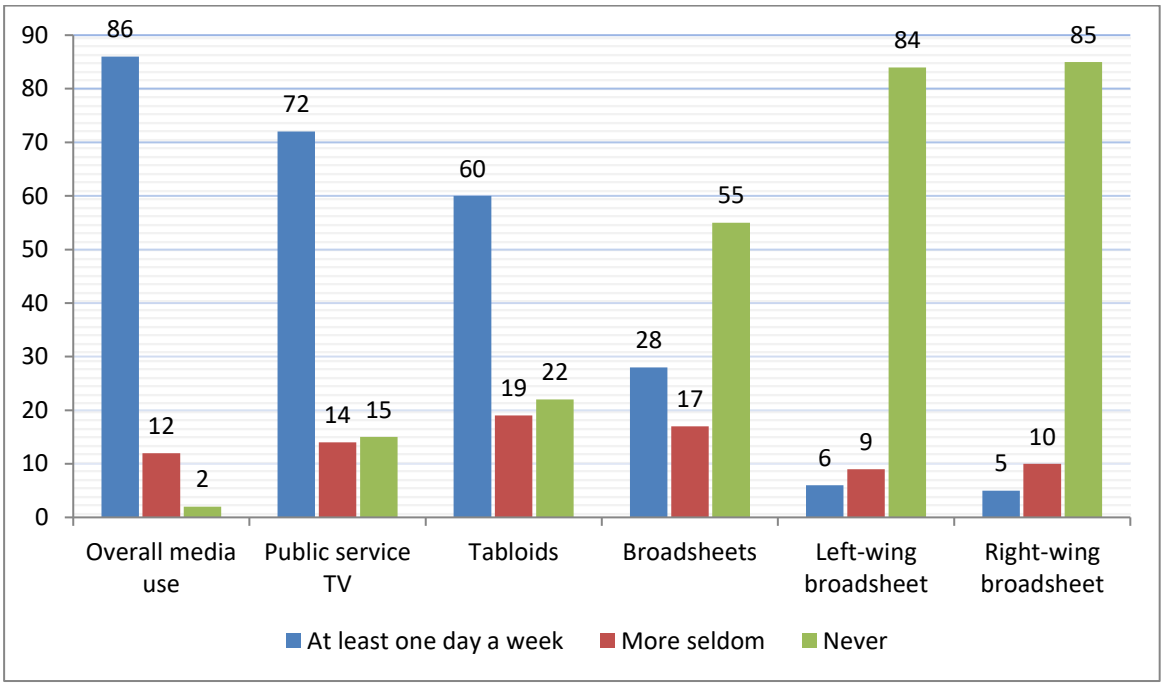

Figure 12 Use of the Investigated Media Outlets Year 2016 (Percentages)
Note: N = 2,254. The reason why all media outlets do not add up to 100 is that the percentages are rounded to whole numbers. “At least one day a week” includes the following response options: daily, 5–6 days a week, 3–4 days a week, and 1–2 days a week.