Reported Change in Adolescent Psychosocial Functioning during the Covid-19 Outbreak

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Abstract

What effect the outbreak of Covid-19 pandemic has on adolescents' psychosocial functioning is unknown. Using data of *N* = 1789 (50% females) adolescents in Sweden we described adolescents' thoughts and behaviors, as well as perceived changes in substance use, everyday life, relations, victimization, and mental health during the outbreak. Results show that a) adolescents tend to comply with regulations from the government, b) although most adolescents do not experience psychosocial changes, a critical number report increase in substance use and negative relational changes and c) most of the adolescents report poorer control of their everyday life and mental health. Adolescent females and adolescents with distance schooling were likely to report negative changes in their psychosocial functioning during the Covid-19 outbreak. Based on these findings, we suggest that the society should pay close attention to changes in adolescents' psychosocial functioning during the time of crisis.

Introduction

The COVID-19 outbreak has paralyzed the whole world. The direct and indirect effects of the pandemic range from harm to individuals' health to financial devastation on both personal and societal levels. For many, not least for adolescents, drastic public health measures such as social distancing have been some of the most difficult challenges posed by the Covid-19 outbreak. The closure of educational institutions and organized leisure activities has led to many adolescents losing access to arenas that previously offered knowledge development and social interaction, which could have adverse effects on adolescents' health. In Sweden, there has been a general increased concern for adolescents and their health even before the outbreak. For example, reports from the Public Health Agency of Sweden (2018) and the National Board of Health and Welfare (2017) show that adolescents report having increased psychosomatic symptoms. The same reports also show that the mental distress has increased during the recent years. As adolescents seem to be vulnerable to mental health problems (Paus, Keshavan and Giedd 2008), in this paper we wanted to demonstrate adolescents' thoughts and behaviors in relation to the COVID-19 outbreak, as well as, reported changes in substance use, everyday life, relations, victimization, and mental health during the Covid-19 outbreak.

Adolescents' psychosocial functioning in crises

The period of adolescence is considered one of the most critical developmental periods in human life (Arnett 2006; Steinberg 2001). During this period in life, adolescents strive for autonomy from parents and seek more time with friends (Bornstein, Jager and Steinberg, 2013), which is why socializing with peers and engaging in social activities is critical to their psychosocial development. A somewhat upended life situation, when adolescents spend more time with family and less time with peers, could have both positive and negative outcomes in terms of adolescents' psychosocial functioning. For example, staying at home could include more opportunities to do fun and enjoyable things with family, which could result in improvement of the parent-child relationship (Courtney, Watson, Battaglia, Mulsant and Szatmari 2020). In addition, parents would have better opportunities to monitor their children, which could decrease the risk of engaging in harmful activities such as substance use (Kapetanovic, Skoog, Bohlin and Gerdner 2020), which generally increases during adolescence (Degenhardt, Stockings, Patton, Hall and Lynskey 2016; Turner, Daneback and Skårner 2018). On the other hand, increased time spent at home with family can also include more conflict between youth and their parents and increased harsh discipline and control by parents (Lee and Ward 2020), which could have adverse effects on adolescents's psychosocial functioning (Bender et al. 2007).

Moreover, although many adolescents manage to navigate the transition to adulthood, adolescence is also a period of heightened risk for psychosocial problems and psychiatric disorders (Kipping, Campbell, MacArthur, Gunnell and Hickman 2012; Paus et al. 2008). Experiencing times of crisis during such critical developmental period of life, can put a strain on adolescents' psychosocial functioning (Guessoum et al. 2020), which could be harmful for their future development. Indeed, different precautions in the light of the pandemic seem to affect adolescents in varied directions. Although the precautions are deemed necessary, scholars worry that distance schooling (Lee 2020), along with social distancing (Liu, Bao, Huang, Shi and Lu 2020), could have adverse impacts on adolescents' psychosocial functioning (Guessoum et al. 2020). Indeed, adolescents, particularly high school seniors, report feeling distress and concern about the future because of being away from school and peers (Ellis, Dumas and Forbes 2020). Other studies showed that school closures can be linked to decreased physical activity, sleep problems, a less healthy diet, and more screen time (Brooks et al. 2020; Wang et al. 2019), which in turn can result in mental health problems, including depression (Keles, McCrae and Grealish 2020). Scholars also worry that the time of pandemic could include increased engagement in risk behaviors, such as substance use, as well increased offline and online victimization among adolescents (Guessoum et al. 2020). Moreover, a study by Mowbray (2020), only two weeks after the outbreak in China, revealed that the frequency of PTSD in general population increased from 4 % to 41 %, where female gender, low socioeconomic status, low social support, and lower resilience were some of the risk factors. Another study from China showed high levels (18.9%) of anxiety and depression in students in Hubei province after an approximate lock down of 30 days (Xie et al. 2020). In contrast, a Swiss longitudinal study starting two years before the pandemics, showed that there was an increase in adolescents' anger and stress levels, but a decrease in internalizing symptoms such as depression during the pandemic (Shanahan et al. 2020). The same study revealed, however, that those who experienced pre-pandemic social stressors (e.g. bullying victimization, stressful life events, and feelings of social exclusion) were more likely to show more emotional distress and that females, more often than males, reported emotional distress and hopelessness. This indicates that the effects of the pandemic depend on prior experience and could vary across the genders.

Cultural Context and Current Study

Due to the Covid-19 pandemic, countries have taken precautions to control the transmission of coronavirus disease (WHO 2020). Swedish strategy has included a great focus on the individual's own responsibility to contain the virus. The government imposed recommendations to keep physical distance (also called social distancing), to wash hands, to stay at home when having any symptoms at all, to avoid physical contacts with people older than 70 , to avoid unnecessary travelling, and, when possible, to work from home (Paterlini 2020; Swedish Civil Contingencies Agency 2020). Contrary to many other countries, the quarantine or obligatory face masks have not been implemented in the strategy. Moreover, although with implemented measures to avoid crowding of people, restaurants, pubs, local transportation services and shopping malls have mainly remained open during the pandemic (Swedish Civil Contingencies Agency 2020). One explanation of the Swedish strategy is that the people living there have a high level of trust in government agencies and, therefore, do as they are told (Public Health Agency of Sweden 2020). The main effort in Sweden has been to limit the spread among people, to have the right medical resources to help infected people, to limit the impact on critical services such as health care and police, and to ease the impact on both people but also on businesses with crisis packages to help organizations and ensure people their jobs (Paterlini 2020). While many of the countries in the world implemented strict domestic quarantine policies, including distance schooling for children of all ages, in Sweden, the distance schooling has been implemented primarily in upper secondary education and universities, moving to distance education on the 17th of March 2020 (Paterlini 2020). However, students in lower secondary school had regular schooling and did not turn to distance education at all.

At almost the same time, March 29th, the restriction of having no more than 50 people at any event (both public and official) was implemented in Sweden. For adolescents, this was particularly noticeable due to the restriction of graduation ceremonies, leisure-time activities, concerts, festivals, clubs, etc. Professionals have raised concerns about the effect of the pandemic on adolescents' psychosocial functioning, particularly due the precautions of distance schooling and social distancing. Given that adolescence is aa time of important biopsychosocial changes (Steinberg 2001), making adolescents a vulnerable group during a time of crisis, in this paper we aimed to capture adolescents' thoughts and behaviors in relation to the Covid-19 outbreak, as well as perceived changes in substance use, everyday life, relations, victimization, and mental health during the pandemic.

Method

Procedure

The project COVIDung was designed to recruit adolescents of ages 15 to 19 to study adolescents' social relations, individual characteristics, and psychosocial changes during the Covid-19 outbreak. Participant recruitment and survey completion through online survey occurred between June 8th and July 7th, 2020. The dates corresponded with the end of the semester and the beginning of summer vacation for students both at lower and upper secondary schools. Advertisements for the study were posted mainly on Instagram (70 percent), as well as Facebook and Twitter. Before answering the survey, participants were informed about the study and their rights as participants. Individuals who were interested in participating followed the link to the survey. Survey statistics revealed that we reached almost 266 000 individuals (out of about 400 000 possible in the targeted age-group) with the advertisements and that 7217 individuals clicked on the link to the survey. We used a secure online platform for the survey, administrated by a company specializing in research surveys. The survey took approximately 15-20 minutes to finish, and participants could use either a smartphone or a computer. The project was approved by the local ethical committee at **X** before the data were gathered.

Participants

In total, *N* = 1841 adolescents completed the survey. Out of total, *n* = 51 were excluded from the sample because they reported being younger than 15 or older than 19 years of age. Thus, the final sample consisted of *N* = 1789 adolescents (50% females), born 2001 – 2005 (*Md* = 2003), living in Sweden. About 75 percent (*n* = 1319) were students at upper secondary school (ages 17 - 19), 25 percent (*n* = 403) were students at lower secondary school (ages 15 - 16). In our sample, 99 percent of students at upper secondary school had distance education while 14 percent of students at lower secondary school had distance education (probably due to personal needs). In total this means that about 80 percent of youth in our sample moved to distance education after Mid-March. Furthermore, the participants came from different Swedish counties although the majority (56 %) came from counties were larger cities are located. Most of the participants lived with both their parents (77 %) and had parents who held a full-time job (mothers 80 %; fathers 86 %).

Measures

Adolescents' Thoughts and Behaviors around the Covid-19 Outbreak. Five items from the Experiences Related to COVID-19 instrument (Skinner and Lansford 2020) were used to assess: confidence in the government (2 items), hope for the future (1 item), and compliance with rules (2 items), all in relation to the COVID-19 outbreak, measured on a 4-point scale ranging from 1 (do not agree at all) to 4 (agree completely).

Reported Changes in Adolescents' Substance Use, Relations and Everyday Lives. Nine items from the Experiences Related to COVID-19 instrument (Skinner and Lansford 2020) were used to assess adolescents' reported changes concerning: substance use (4 items); relations with family and friends (2 items) and everyday life situations (3 items). To the category "relations with family and friends" we added 2 items, one about time spent

with friends (offline) and one about time spent outside without parents' knowledge. All items were measured on a 5-point Likert scale ranging from 1 (decreased a lot) to 5 (increased a lot). The participants could also respond 0 for "I did not do this before the outbreak and have not started".

Reported Changes in Adolescents' Victimization. Changes in victimization were assessed with five items from the Swedish Crime Survey (Ring 2013). The items covered physical violence, threats, and sexual harassment (3 items) and online victimization (2 items), measured on a 5-point scale ranging from 1 (decreased a lot) to 5 (increased a lot).

Reported Changes in Adolescents' Mental Health. Nine items from the Experiences Related to COVID-19 instrument (Skinner and Lansford 2020) were used to assess adolescents' reported changes in: sleep, stress, satisfaction, loneliness, anger, depression, and anxiety. The items were measured on a 4-point scale ranging from 1 (don't agree at all) to 4 (agree completely).

Demographics. We used adolescents' gender and schooling situation as demographic variables. Adolescents' gender was coded 0 = males and 1 = females, and schooling was coded 0 = regular schooling and 1 = distance schooling.

Statistical Analyses.

We used SPSS 25 to conduct statistical analyses. Descriptive analyses were conducted to show the frequencies of adolescents' thoughts and behaviors around the Covid-19 situation and reported change in psychosocial functioning. We dichotomized all ordinal scale variables and conducted Pearson's chi-square tests to compare males and females, as well as adolescents with regular schooling and distance schooling, in terms of their thoughts and behaviors around Covid-19 situation and reported changes in psychosocial functioning.

Results

Adolescents' Thoughts and Behaviors around the Covid-19 Outbreak

We asked the adolescents about their thoughts and behaviors around the Covid-19 outbreak. As shown in Figure 1, the majority of the adolescents (65.9 % - 92.2 %) had positive views of how the government is handling the situation, and a good outlook toward the future and the virus resolving over time. Most of the adolescents (77.8 % - 92.3 %) also reported that they complied with the rules and suggestions of the government and health care system to contain the virus and found it easy to do so.

Comparison of males and females revealed that females were more likely than males to report having confidence in the government handling the Covid-19 response (72.1 % vs 59.5 %, $p < .001$), and complying with rules and suggestions of the government and health care system to contain the virus (91.2 % vs 82.4 %, $p < .001$). Males were, however, more likely than females to report being hopeful that the virus will resolve over time (86.3 % vs. 80.2 %, $p < .001$). Moreover, adolescents with distance education were more likely than adolescents with regular education to report complying with rules and regulations (88.1 % vs 82. %).

Reported Changes in Adolescents' Substance Use, Relations and Everyday Lives

As shown in Table 1, most of the adolescents reported that their substance use, relations with family and friends, and everyday lives were relatively unchanged in comparison to the period before the Covid-19 outbreak. However, although more than 10 percent of the adolescents stated that their alcohol use and inebriation had decreased, 17. 6 percent and 14.1 percent of adolescents, respectively, reported that their alcohol use and inebriation had increased. A total of 30.1 percent of adolescents reported a decrease in spending time with family doing fun things, while 29.9 percent of adolescents indicated that conflict with parents had increased. In addition, 13.6 percent of adolescents reported that their hanging out on the streets without parents' knowledge had decreased and a total of 49.6 percent of adolescents reported a decrease in meeting with friends offline. Finally, a total of 47.7 percent of adolescents indicated that they had more time for things they had not had time for before. However, 39.8 and 35.9 percent, respectively, reported a decrease in being in sync with tasks at school and having control of their everyday life.

Table 1. Reported Changes in Adolescents' Substance Use, Relations with Family and Friends and Everyday Life Situation

Item		Frequency			
	n	Have not done it before *n* (%)	Decreased *n* (%)	Unchanged *n* (%)	Increased *n* (%)
Substance use					
Smoking cigarettes	1642	1325 (80.7)	97 (5.9)	112 (6.8)	108 (6.6)
Drinking alcohol	1644	765 (46.5)	204 (12.4)	385 (23.4)	290 (17.6)
Getting inebriated	1643	921 (5.1)	202 (12.3)	288 (17.5)	232 (14.1)
Using narcotics	1640	1485 (90.5)	45 (2.7)	58 (3.5)	52 (3.2)
Relations with family and friends					
Spending time with family doing fun things	1644	65 (4.0)	495 (30.1)	51 (39.6)	433 (26.3)
Having conflicts with my parents	1646	337 (20.5)	127 (7.7)	690 (41.9)	492 (29.9)
Hanging out on the streets without my parents' knowledge	1642	620 (37.8)	223 (13.6)	622 (37.9)	177 (10.8)
Meeting with friends offline	1642	60 (3.7)	815 (49.6)	456 (27.8)	311 (18.9)
Everyday life situation					
Having time for things that I have not had before	1642	46 (2.8)	192 (11.7)	620 (37.8)	784 (47.7)
In phase with tasks at school	1641	26 (1.6)	653 (39.8)	591 (36.0)	371 (22.6)
Having control of my everyday life	1640	17 (1.0)	589 (35.9)	600 (36.6)	434 (26.5)

Note: For simplicity, the alternatives "decreased a little" and "decreased a lot" were categorized as "Decreased" and the alternatives "increased a little" and "increased a lot" were categorized as "Increased"

Comparison of adolescents who reported changes in their substance use (n = 95 – 494), relations (n = 619 – 1126), and everyday life (n = 97 – 1024) showed that males were more likely than females to report decrease in use of narcotics (54.0 % vs 32.4 %, $p < .05$) and in meeting with friends offline (77.5 % vs 66.1 %, $p < .001$). Females, however, were more likely than males to report an increase in having conflicts with parents (84.8 % 74.2 %, $p < .05$).

Furthermore, adolescents who had distance education were more likely than adolescents who had regular education to report decreases in alcohol use (43.2 % vs 28.4 %, $p < .05$), meeting with friends offline (75.2 % vs 55.0 %, $p < .001$) and in being in sync with tasks at school (64.9 % vs 54.7 %, $p < .05$). Adolescents who had distance education were more likely than adolescents who had regular education to report having conflicts with parents (81.1 % vs 72.7%, $p < .05$), while adolescents who had regular education were more likely than adolescents who had distance education to report a decrease in time spent with family doing fun things (60.4 % vs 51.5 %, $p < .05$) and having less control of their everyday life situation (69.6 % vs 56.0 %, $p < .05$).

Reported Changes in Adolescents' Victimization

We asked the adolescents whether they experienced decreases or increases in the level of offline and online victimization. As shown in Figure 2, most adolescents reported being neither more nor less victimized after the Covid-19 outbreak than before. In terms of any kind of changes, then sample tended to report more decreases than increases in offline and online victimization.

Out of those who reported changes in victimization (n = 163 – 221), adolescents who had distance education were more likely than adolescents who had regular education to report a decrease in being kicked or physically attacked (85.5 % vs 71.4 %, $p < .05$) and being threatened (83.5 % vs 63.8 %, $p < .05$). No significant differences between gender and victimization were found.

Reported Changes in Adolescents' Mental Health

As shown in Table 2, the majority of adolescents reported that they had more internalizing symptoms, such as being sad, anxious and lonely, and externalizing symptoms, such as being angry and arguing, now, in comparison to before the Covid-19 outbreak.

Table 2. Reported Changes in Adolescents' Mental Health

	N	Strongly agree *n* (%)	Agree *n* (%)	Disagree *n* (%)	Strongly disagree *n* (%)
I sleep about as well now as I did before the Covid-19 outbreak	1651	440 (26.7)	615 (27.2)	398 (24.1)	198 (12.0)
I sleep more now at unusual times than I did before the outbreak	1647	367 (22.3)	633 (38.4)	379 (23.0)	268 (15.3)
I feel more anxious now than I did before the outbreak	1646	213 (12.9)	632 (38.4)	509 (30.9)	292 (17.7)
I feel more sad/depressed now than I did before the outbreak	1648	301 (18.3)	535 (32.5)	485 (29.4)	327 (19.8)
I feel more angry now than I did before the outbreak	1647	181 (11.0)	488 (29.6)	596 (36.2)	382 (23.2)
I get in more arguments now than I did before the outbreak	1646	103 (6.3)	370 (22.5)	655 (39.8)	518 (31.5)
I feel more lonely now than I did before the outbreak	1648	403 (24.5)	578 (35.1)	357 (22.8)	292 (17.7)
I feel less stressed now than before the outbreak	1645	140 (8.5)	409 (24.9)	652 (39.6)	444 (27.0)
I feel more satisfied now than before the outbreak	1642	75 (4.6)	341 (20.8)	813 (49.5)	413 (25.2)

Comparison of males and females showed that females overall showed poorer mental health during Covid-19 outbreak. Males, to a higher extent than females, reported sleeping about as well now as before the outbreak (69.4 % vs 58.9 %, $p < .001$). Females, to a higher extent than males, reported having poorer sleep (41.1 % vs 30.6 %, $p < .001$), being more anxious (63.3 % vs 38.2 %, $p < .001$), sad/depressed (59.7 % vs 41.1 %, $p < .001$), angry (48.4 % vs 32.2 %, $p < .001$), getting in more arguments (32.3 % vs 24.6 %, $p < .001$), feeling more lonely (66.7 % vs 52.0 %, $p < .001$), stressed (701 % vs 63.0 %, $p < .001$) and less satisfied (79.3 % vs 69.7 %, $p < .001$) now than before the outbreak.

Some differences were also found when adolescents who had regular education were compared with adolescents who had distance education. Adolescents who had regular education in comparison to those who had distance education, reported being less satisfied with their situation (79.9 % vs 73.3 %, $p < .05$). However, adolescents that had distance education, to a higher extent than those who had regular education, reported poorer sleep (38.6 % vs 25.7 %, $p < .001$), sleeping at more unusual times (65.4 % vas 42.7 %, $p < .001$), being more anxious (52.9 % vs 44.4 %, $p < .05$), sad/depressed (53.6 % vs 38.7 %, $p < .001$), getting in more arguments (29.9 % vs 22.9 %, $p < .05$), and feeling more lonely (64.0 % vs 41.5 %, $p < .001$).

Discussion

The aim of this study was to capture adolescents' thoughts and behaviors in relation to the Covid-19 outbreak, as well as perceived changes in substance use, everyday life, relations, victimization, and mental health during the outbreak. In Sweden, adolescents' everyday lives have been affected as of March, 2020, when upper secondary education moved to distance education, and restrictions of having no more than 50 people at any event (both public and official) were implemented in Sweden. Organized leisure activities were often closed, and their school context was suddenly reduced to distance education at home with few opportunities to meet with teachers and peers. Although such precautions were deemed necessary to contain the virus, scholars and professionals working with adolescents worry about what effect such changes could have on adolescents' psychosocial functioning. Their concerns were valid.

The overall results in our study indicate that adolescents complied with regulations and had confidence in the government handling the Covid-19 situation. There were, however, reported effects on their everyday lives and relationships. For example, about 50 percent of the adolescents reported spending less time with friends and more time with family after the outbreak than before. One third of adolescents reported a decrease in spending fun time with the family and another third reported an increase in conflicts with parents. Although the majority of adolescents did not report any changes in their substance use and victimization, for some adolescents, the restrictions due to Covid-19 have included more alcohol use, whereas for others, it led to less alcohol use. Notwithstanding that many adolescents reported having more opportunities to do things they had not had time for before the outbreak, adolescents reported having less control over their everyday life, having trouble being in sync with tasks at school, and exhibited worrying tendencies of mental distress, including anxiety, loneliness and stress. Negative changes during the Covid-19 pandemic particularly seemed to apply to females and adolescents who have had distance education.

Why are these results important? Being in transition to adulthood is not always easy. While some adolescents go through adolescence without hardship, for some adolescents, the period of adolescence can be a time of challenge and distress (Steinberg 2001; Kipping et al. 2012). Adolescents are therefore vulnerable, and particularly could be exposed to potentially harmful consequences when their everyday life and environment suddenly changes. Despite the fact that adolescence is one of the most critical periods in life (e.g. Paus et al. 2008; Guessoum et al. 2020), little attention has been given to adolescents and their psychosocial functioning during the Covid-19 pandemic. Indeed, scholars have raised important questions abou7t the well-being and mental health of adolescents during the crisis (Bruining, Bartels, Polderman and Popma 2020; Green 2020; Guessoum et al. 2020; Liu et al. 2020), however little attention has been paid to adolescents' situation, both in media and by governmental policies. This is important considering that, although adolescents in adolescence are not the primary risk group for spreading of the Covid-19 disease, they have been particularly restricted in their everyday life given that their social environment abruptly changed. This has all been for the benefit of adults. They are to stay at home, avoid contact with peers, and find ways to cope with school and daily life. And they are compliant. According to our results, adolescents report having confidence in the government handling the situation well and that they comply with the rules and regulations, including spending less time with peers and more at home. But at what cost?

As shown in our study, for many adolescents, spending more time at home included having more conflicts with parents and less time for fun things with family. These relational changes are important as they could impact adolescents' development, not the least in how they cope with difficulties during the time of crisis (Bruining et al. 2020; Lee 2020). For example, most of the adolescents in our study reported poorer mental health now than before the outbreak. This particularly seemed to be the case for females and for adolescents who have had distance schooling during Covid-19 crisis. As noted by other scholars (eg. Guessoum et al. 2020; Phelps and Sperry 2020), the pandemics could have serious consequences for adolescents' further development and their mental health, particularly if adolescents do not have support from parents, peers or professionals working with adolescents (Rueger, Malecki, Pyun and Coyle 2016). As suggested by Guessoum and colleagues (2020), adolescents are likely to engage in substance use as a means of coping with difficult situations. Although the majority of adolescents in our study did not report changes in their substance use, some adolescents reported increases while others decreased in their use of alcohol and drugs. As strong parent-child relationship and parental monitoring are some of the central protective factors for substance use engagement (Kapetanovic et al. 2020; Yap, Cheong, Zaravinos-Tsakos, Lubman, and Jorm 2017), it could be speculated that adolescents who perceive having poorer relations with parents during the times of pandemic could also increase their substance use, potentially as means of coping with the current situation. Moreover, given that peers provide strong support in terms of well-being (Moore et al. 2018), another potential explanation is that adolescents may perceive more mental health problems as related to reduced socializing with peers. Such hypotheses should be investigated in future research.

One positive aspect of changes in adolescents' everyday lives, is that the reports of peer victimization were decreased rather than increased during this period of the pandemic. As seen in the results, particularly adolescents who had distance education reported less physical and sexual victimization during pandemics. One explanation of such a tendency could be that context plays a role. As victimization among adolescents often takes place in school or peer contexts (Espelage, Hong, Rinehart and Doshi 2016), and continues online (Underwood and Ehrenreich 2017), being outside of such a context could, in a sense, buffer the risk of being subjected to victimization. However, there are also groups of adolescents who experience increases in victimization. Corroborating other scholars' concern (Cohen and Bosk 2020; Guessoum et al. 2020), we worry that social distancing and lack of social support that schools and their classmates (Skoog and Kapetanovic 2020) often can provide could be harmful for adolescents' future development. More in-depth research needs to be done to understand the risk and protective factors in terms of adolescents' psychosocial functioning during the period of crisis.

Limitations And Conclusions

There are some limitations in this study. Because of the cross-sectional nature of the data we cannot control for the previous levels of adolescents' psychosocial functioning or make inferences of causality. Next, the participants were recruited through the internet and more specifically social media. Such a design carries a risk for selection bias because it limits the population to internet user. However, 98 percent of the population in Sweden have access to internet at home and the majority of adolescents are frequent social media users (The Swedes and the Internet 2019), which makes the risk of selection bias small. Furthermore, we did not investigate the possible correlates of adolescents' reported psychosocial changes. Future studies should therefore examine the possible risk and protective factors pertaining to reported changes in adolescent psychosocial functioning. Some strengths of the current study include large and representative sample and focus on adolescents, who are in the crucial transitional stage of development (Steinberg 2001), now during the period of crisis.

In conclusion, the descriptive results in this study indicate that adolescents experienced negative relational changes and poorer mental health during the Covid-19 crisis. They report being compliant with the rules and regulations at the cost of their psychosocial functioning. The message we want to send is that the society has to take action in times of crises and social distancing in order to make sure that adolescents have all the support they need to be able to handle the challenges they face. Adolescents need to be engaged in the governmental policies and have opportunities to be guided into the future. When everyday school support is harder to reach for adolescents, schools need to get resources not only to maintain education on a distance, but also to maintain and expand school counselling and mental health support. In case of new periods of social distancing and distance education, government policies need to act fast and with great concern about adolescents' well-being, now and in the future.

Declarations

All procedures performed in the study were in accordance with the ethical standards of the institutional research committee (The study was approved by the local scientific ethics committee at Jönköping University, School of Health and Welfare, Sweden (2020-05-20 no 20.6)) and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study.

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

On behalf of all authors, the corresponding author states that there is no conflict of interest.

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Figures

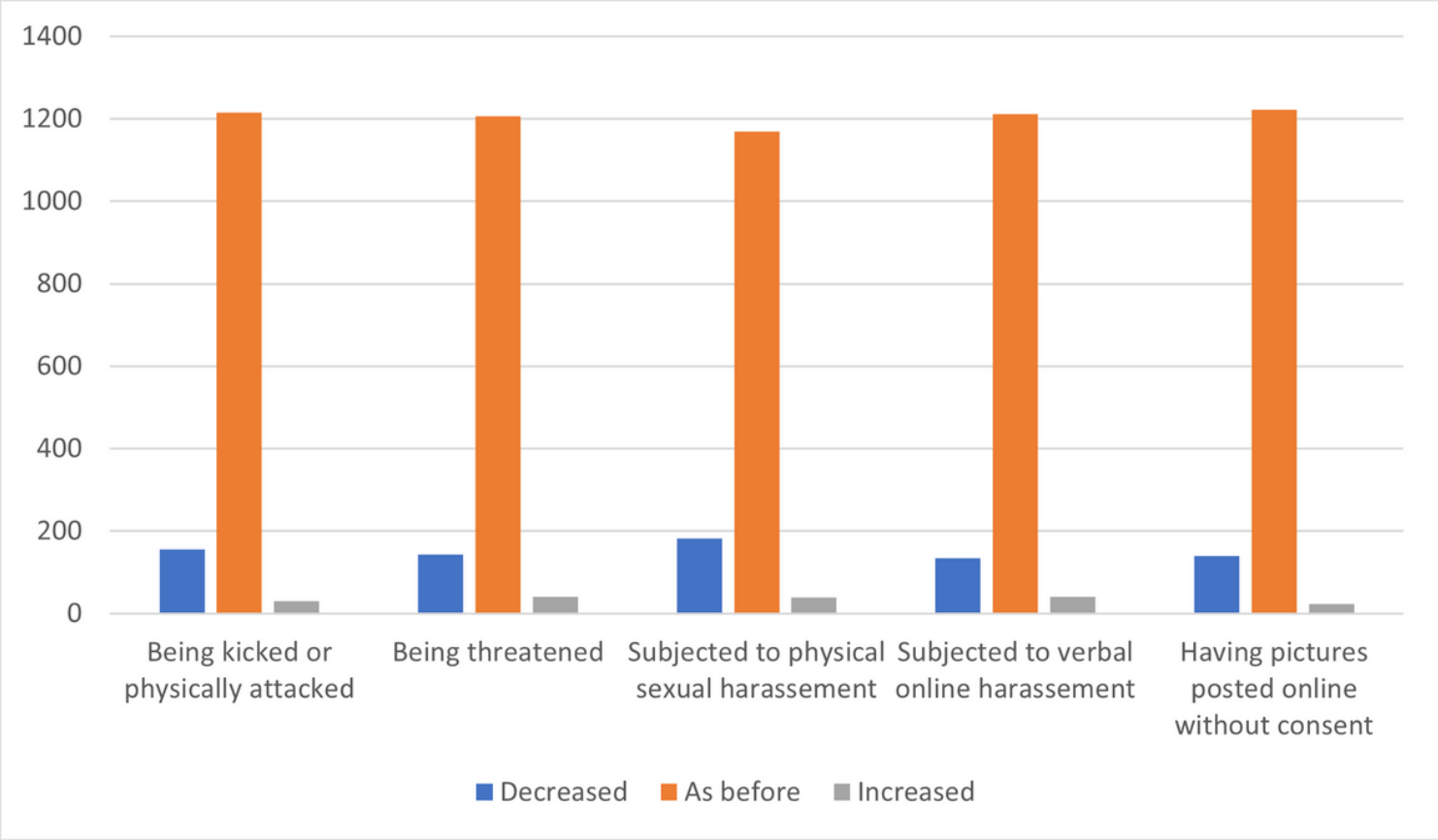

Figure 1

Adolescents' Feelings and Behaviors around the Covid-19 Outbreak

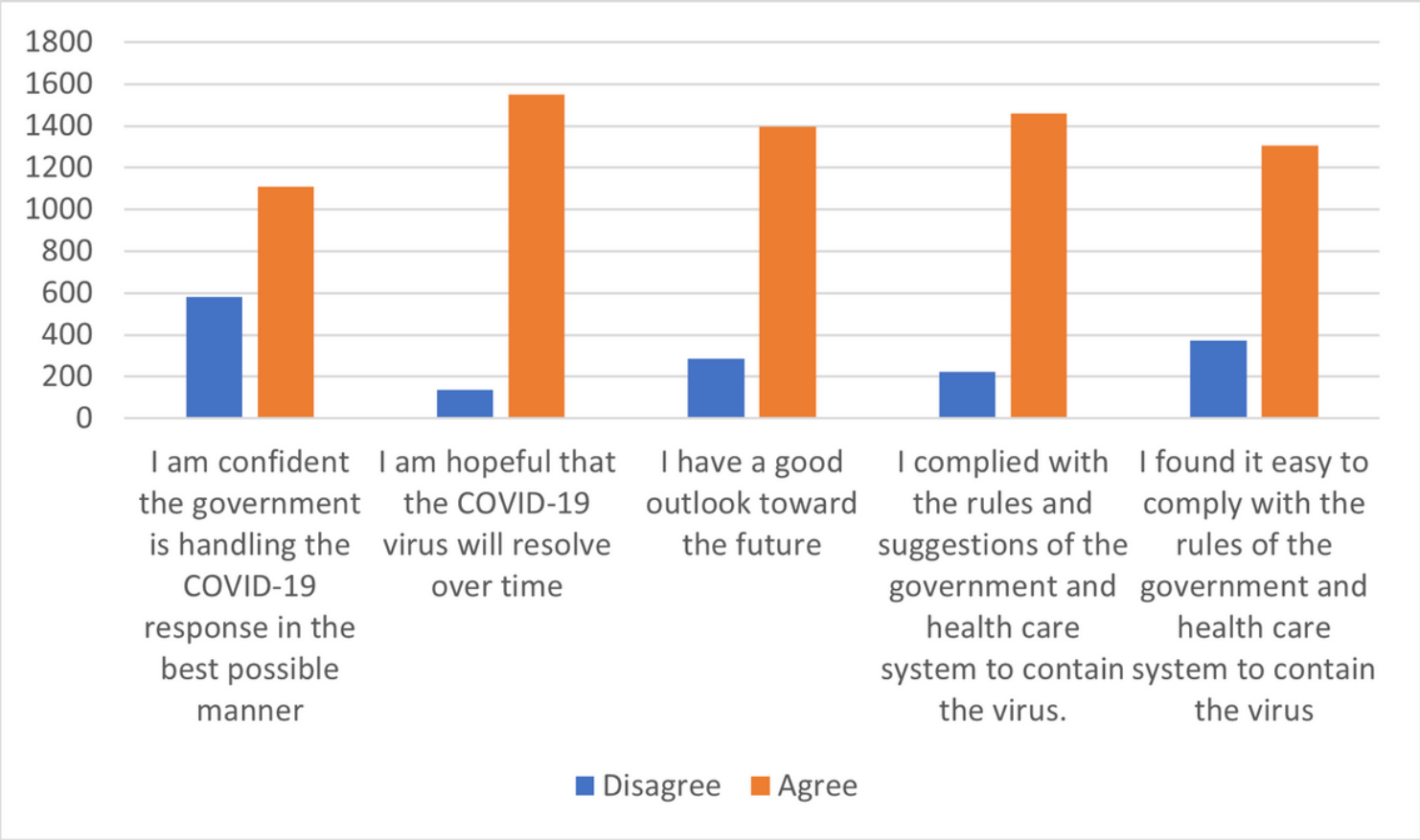

Figure 2

Reported Changes in Adolescents' Offline and Online Victimization