# **Anxiety and Watching the War in Ukraine**

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# **Conflict of Interest**

The authors confirm they have no conflict of interest to declare. Authors also confirm that this article adheres to ethical guidelines specified in the APA Code of Conduct as well as the authors' national ethics guidelines.

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ANXIETY AND WATCHING THE WAR IN UKRAINE

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#### **Abstract**

On February 24, 2022, Russia began an unprovoked attack against Ukraine. Millions of people tuned into social media to watch the war. Europeans may be particularly vulnerable to the war. Media exposure to disasters and large-scale violence can precipitate anxiety resulting in intrusive thoughts. This research investigates factors related to anxiety while watching the war. Since the war began during the ongoing coronavirus pandemic, threat from COVID-19 is seen as a predictor of anxiety. A theoretical model is put forth where the outcome was anxiety while watching the war and predictors were self-reported interference of watching the war with one's studies or work, gender, worry about the war, self-efficacy and coronavirus threat. Data were collected online with independent samples of university students from two European countries close to Ukraine, Germany (n = 342) and Finland (n = 213), who filled out an anonymous questionnaire. Path analysis was used to analyze the data. Findings showed that the model was an acceptable fit to the data in each sample, and standardized regression coefficients indicated that anxiety increased with interference, war worry, and coronavirus threat, and decreased with self-efficacy. Women reported more anxiety than men. Number of hours watching the war was related to more interference and war worry.

Keywords: anxiety, watching the war, COVID-19, self-efficacy

#### Introduction

On February 24, 2022, Russia began an unprovoked and highly aggressive attack against Ukraine. As a result, not only were military targets taken out, but thousands of civilians were injured or killed, many historical monuments as well as hospitals and schools were destroyed, and environmental damage is incalculable. Civilian casualties both in terms of deaths and injured, have been estimated in the thousands. In a short time, the attack has triggered a major catastrophe affecting millions of people both in Ukraine and abroad when one considers the economic implications. The war has displaced over 10 million people in Europe's largest refugee crisis since the Second World War, and the numbers are expected to rise (Tandon, 2022). Moreover, the attack has sparked outrage in countries all over the world many of whom are cooperating in imposing sanctions on Russia in the hope that, by cutting off its economic lifelines, Russia will cease its attack. However, the war continues and the human toll of suffering grows daily (Moshagen & Hilbig, 2022).

# **Media Exposure to Violence and Psychological Reactions**

With T.V. and a variety of social media available, millions of people have been able to tune in and watch the progress of the war. It is not the first war watched on social media. For example, other armed conflicts have been watched on social media such as the Syrian war that began in 2011. But the way wars are covered on social media has changed over time resulting in a significant increase in viewers. As of March 7, 2022, TikTok videos tagged with #ukrainewar have been viewed more than 600 million times, and almost 180,000 Instagram posts have been made (Tik Tok War (2022).. Therefore, people can watch the war 24 hours a day on their TV, the Internet, TikTok videos, Instagram stories, Tweets, cell phone, etc., if they choose to do so.

While individuals watching the war are themselves not in immediate danger, there should be psychological effects of watching the war given the extent of human suffering that is seen on a continuing basis. Some of these may include anger, depression, sadness, anxiety and worry, resulting from watching the war. And it is well known that there can be physical effects of worry including headaches, stomach pains, and a racing heart, for example.

Another result of worry can be the occurrence of intrusive thoughts, defined as unbidden thoughts, images, or feelings about a specific stressful event or circumstance (e.g., "I thought about it when I didn't mean to") (Horowitz et al., 1979). Research findings show that heightened frequency of intrusive thoughts is common in the aftermath of a stressful event (Baum et al., 1993). For example, when under stress, people may find it hard to de-escalate their thoughts, interfering with their ability to sleep (Morin, Rodrigue, & Ivers, 2003). Further, experimental manipulation of intrusive thoughts has been shown to elicit distress and negative mood (Hall and Baum, 1995). Extending this line of reasoning to the present research, it is expected that greater worry about the war would be associated with thoughts that interfere with one's studies or employment. This follows from previous research showing that there is a greater probability of intrusive thoughts following a stressful event. Given that worry about the war is stressful, it is expected that worry about the war would be related to more interfering thoughts.

The present study examines psychological factors related to watching the Russian-Ukraine war and particularly the effects on anxiety while watching the war. Thus, the present research can be informed by the research that has been done in the past on the effects of exposure to armed conflict and natural disasters. In the past, several studies have focused on the impact of exposure to violent acts and natural catastrophes through mass media and social media viewing. Research shows that negative news can cause significant mood changes, generating anxiety and depression that subsequently exacerbate the individuals own personal worries and anxieties (Piotrowski & Brannen, 2002). Additionally, research has shown that media exposure to disasters and large-scale violence can lead to psychological symptoms of distress, at least transiently (Hopwood & Schutte, 2017). Cohen Silver et al. (2013) report that the quantity of media someone consumes and how graphic that content is, influence a person's mental health. They report that, compared to people who viewed less, those who watched at least four hours of television coverage/ per day during the week following the September 11 attacks in the US, reported increased stress and symptoms of post-traumatic stress disorder (PTSD), and were at greater risk of developing health ailments later (Cohen Silver et al., 2013). This suggests that news coverage of an event can strongly influence people's mental and physical health even when they are not directly affected by it. Recent research has shown that, for many people, watching the Ukraine war and the negative feelings it engenders, are related to distress (Moshagen & Hilbig, 2022). Previous studies suggest that, even without direct experiences with violence, perceived similarity with the victims is associated with trauma and distress symptoms (Otto et al., 2007; Herberman, Mash et al., 2016). It is possible that, in part due to the media coverage, the war in an industrialized European country with recent intentions to strengthen Western collaboration, is especially distressing to citizens of other European countries with previous experience or worry about Russian (Soviet) armed forces. Moreover, in the present research university students/young adults will be the participants and they are an important sample because they can be particularly prone to life stressors (Lane et al., 2017) and mental disorders (Merikangas et al., 2010).

According to some mental health therapists, many individuals, far removed from the bombing, have been suffering from anxiety, depression and at times, a post-traumatic stress disorder because of the Ukraine war (Blackwell, 2022). People with a history of trauma or some other psychological issues are most severely affected, but even those without such previous experience have been seeking professional help for symptoms such as anger, sleeplessness and stress as a result of watching the war (Blackwell, 2022). In Germany, Grünewald (2022) observes that, though acting "normal" in everyday life and with the thought that the war front is only thousands of kilometers away from Germany, many individuals try to push away or escape the danger of war. "But the reality of war resonates loudly, sometimes quietly always with it, follows people in their dreams and finds its way into their language" (Grünewald, 2022). Thus, the thought of the war engenders anxiety and can lead to constant worry despite efforts at active suppression. In the present research, it is expected that the more hours individuals watch the war, the greater their worry about the war, and the more likely watching the war will interfere with their studies or employment.

# **COVID-19 and Anxiety**

Given the ongoing pandemic which began in 2020 (Begic, Buchwald, & Greenglass, 2022), the anxiety associated with watching the war may be an exacerbation of the anxiety that individuals were experiencing as a result of COVID-19 which continued to present a threat to people (Greenglass, Chiacchia, & Fiksenbaum, 2021; Chiacchia et al., 2022). According to the World Health Organization (WHO), by January 28, 2022, the COVID-19 virus had infected over

364 million people globally with over 5.6 million fatalities (World Health Organization [WHO], 2022). Moreover, the COVID-19 pandemic has had far-reaching psychological, social and economic consequences beyond the spread of the disease itself (Greenglass & Fiksenbaum, In Press). As a way of slowing the spread of infection, authorities had limited in-person gatherings of people and over the last few years, many businesses were forced to close. As a result of lockdowns and social distancing, businesses, entertainment, travel, tourism, and the leisure industry have all suffered (Ceylan et al., 2020). Many people have been forced to work at home. Restrictions placed on the numbers of people allowed to gather in physical spaces, such as shopping malls, sporting arenas, bars, and restaurants, have resulted in widespread social isolation for many for extended periods of time. All of this has contributed to social isolation and, as a result, psychological difficulties (Brooks et al., 2020). However, with increasing numbers of people being vaccinated for COVID-19 and symptoms easing when people do contract the virus, in-person businesses are opening, people are venturing out more and participating more in social gatherings (Ipsos, 2022).

Nevertheless, since COVID-19 is still circulating and many are becoming infected, people are still anxious about becoming infected (Begic, Buchwald, & Greenglass, 2022). Moreover, to the extent that individuals perceive threat from COVID-19, they are more likely to experience anxiety (Chiacchia et al., 2022). Thus, the Ukraine war, enforced isolation, as well as anxiety and threat associated with COVID-19, as well as economic difficulties resulting from the pandemic (Greenglass & Fiksenbaum, In press), continue to take their toll on people's mental health. Given that the current war began during the COVID-19 pandemic (February 24, 2022), it is reasonable to expect that anxiety from the continued threat of getting the virus has

contributed to the deleterious reactions people have had to watching the war. In other words, there has been a cumulative effect of psychological anxiety due to the pandemic and watching the war. Cumulative stress can be observed when multiple events occur within a relatively short period of time, the prolonged stress can lead to long-lasting negative consequences (Forgey, 2017). Thus, given the distress associated with the threat of coronavirus threat, social isolation, and economic stress, the stress associated with watching the war can be seen as contributing to cumulative stress.

# Self-Efficacy, Gender and Anxiety

There are individual differences that affect the extent of anxiety that people experience resulting from watching the war. For example, previous research indicates that there are gender differences in the experience of stress and anxiety (Nolen-Hoeksema et al., 1999), with women reporting greater anxiety and worry than their male counterparts. Additional research shows that anxiety is the most prevalent issue for college students, especially for female students (Gao et al., 2020) Specifically, female students scored significantly higher on anxiety than males in their first and second years of college. Another individual difference variable that may affect one's anxiety reactions to the war is self-efficacy. People with high general self-efficacy as a personal resource believe they can manage prospective situations and exercise influence over them, and further, self-efficacy is associated with lower stress (Jerusalem & Schwarzer, 1992). Therefore, high self-efficacy should be associated with less anxiety associated with the war as well as less worry about the war.

# **Theoretical Conceptions and Psychological Distress**

The present research examines factors related to anxiety associated with watching the war in Ukraine. This involves specifying variables that precipitate anxiety as well those that may alleviate anxiety that is experienced. To address the development of anxiety in response to watching the war, we incorporate concepts from Self-Regulation Theory (Bandura, 1991) as well as from Job Demands-Resources (JD-R) Theory (Demerouti & Bakker, 2011).

According to JD-R Theory, people experience stress when demands (usually on the job) are high and resources are low. Thus, to the extent that personal resources to deal with these demands are minimal, individuals are more likely to experience high levels of stress and anxiety. The idea of an imbalance between demands and resources (to deal with demands) can be applied to the present study in that watching the war may been seen as presenting emotionally draining images of social violence and harm, thus leading to anxiety. One of the resources to manage anxiety that has been identified in the literature on Self-Regulation Theory, is self-efficacy. Self-efficacy is conceptualized as the belief that one has the ability to successfully engage in specific behaviours to solve or manage a difficult problem (Bandura, 1997). Self-Regulation Theory involves conscious personal management where one guides one's thoughts and behaviours to reach goals and it encompasses the concept of self-efficacy, which plays a central role in the exercise of personal agency by its strong impact on thought, affect, motivation, and action (Kent & Gibbons, 1987). When individuals have access to personal resources, such as self-efficacy, they are less likely to experience stress and anxiety. Thus, with high self-efficacy, individuals should experience lower levels of anxiety in response to watching the war.

#### **Theoretical Model**

In this research, our primary focus was on variables associated with anxiety experienced while watching the war. The theoretical model we developed was tested with two independent national

samples of university students in Germany and Finland. The return of Russian nationalism and the determination of Putin to reestablish his country as a dominant power have engendered specific negative reactions to the invasion. The concerns today can best be addressed by examining their roots in the past (Merriman, 2010). Germany and Finland have very different histories, different relationships to Russia, as well as differing geography. Finland was part of the Russian Empire before World War I. As Soroka et al., (2019) have argued, there are systematic cross-national differences in responsiveness to news content. Societies and nations deal with anxiety about the future in different ways and the extent to which members of a nation feel threatened may affect their psychological reactions to news events.

Since psychological reactions to watching the war are related to attitudes towards Russia we tested the model separately in each national sample, given the unique historical relationship with Russia that each nation has had (Merriman, 2010). Findings from this study will extend stress theory to encompass psychological reactions while watching the war in Ukraine including resources that can reduce stress such as self-efficacy.

Since engagement with the war was seen as an important factor, we used number of hours watching the war (on TV and/or social media) as a proxy for immersion with the war. It was expected that number of hours watching the war would be positively correlated with greater interference of watching the war with one's studies or employment, as well as with more worry about the war. There is a distinction between anxiety, while watching the war, and worry about the war. The former focuses on anxiety feelings specifically when the individual is watching the war on social media, while the latter, worry about the war, refers to the extent to which an individual worries about the war in general. a model consisting of psychological variables predicting to anxiety while watching the war. In this model, worry about the war is related to interference of watching the war with one's studies or employment. Next, interference is associated with anxiety experienced when watching the war. Coronavirus threat is correlated with war worry and it is related to anxiety while watching the war. War

worry is associated with anxiety. Gender is related to anxiety. Since research shows that women tend to express more anxiety than men (Nolen-Hoeksema et al., 1999), it is expected that women would express greater anxiety in response to watching the war than men. In line with JD-R Theory, people experience stress when demands are high and resources are low. In the present model, individuals are more likely to experience stress when watching the war and having low self-efficacy. Higher levels of self-efficacy should be related to lower anxiety.

Figure 1 presents the theoretical model, the study variables and the hypothesized relationships among variables. In this model, it is hypothesized that worry about the war should relate positively to interfering thoughts, coronavirus threat and anxiety while watching the war. With greater self-efficacy, anxiety, while watching the war, should decrease, while being female, coronavirus threat, interfering thoughts, and worry about the war, should be related to greater anxiety.

#### **INSERT FIGURE 1**

#### Methods

#### **Procedure and Participants**

Data were collected from April to June, 2022. Participants were university students. The questionnaire was presented in Finnish in the Finnish sample, and it was translated into German for the German participants. The questionnaire was posted on *Webpropol* for the Finnish sample, and *Soscisurvey*, for the German sample. This research met all required ethical guidelines, including adherence to the legal requirements of the study country. Informed consent was obtained from participants in both national samples. Participants in both samples were university students. The Finnish sample consisted of 228 participants (63 % female, 32 % male). Mean age of participants was 29.30 years (SD = 8.59). The German sample consisted of 345 participants. Most of the participants were female (76 %) with an average age of 25.46 years (SD = 8.30). In both samples, 20 % were in first year

university and the remaining participants were in second year or higher. The average number of hours/per week watching the war in Finland was 4.50 hours (SD = 4.86) and it was 4.98 (SD = 6.22) in Germany. The questionnaires as well as the data from this project were placed on the Open Science Framework (https://osf.io/n7xkz/).

Data from both samples were cleaned using the same criteria. Respondents who signed up for the study but did not fill out the questionnaire were deleted. Those who took less that 3 minutes to answer the questionnaire were dropped as were those who took more than 50 minutes. In addition, participants who responded consecutively with a run of the same response number more than 10 times were dropped as were those who were not students. In the Finnish sample, there were 283 participants but after the criteria for deletion were applied, the sample consisted of 228 participants which resulted in 19% of the sample being deleted. In the German sample, there were 391 participants but after the criteria for deletion were applied, the sample consisted of 348 participants, resulting in 11% of the sample deleted.

Table 1 presents a summary of the measures, authors, sample items, and Cronbach's Alphas for composite variables in both samples. Composite variables had acceptable levels of reliability in both samples (see Table 1).

#### **INSERT TABLE 1**

Coronavirus threat is defined as fear, uncertainty and cognitive preoccupation with COVID-19 and is assessed with the *Brief Coronavirus Threat Scale* (BCTS; Chiacchia et al., 2022) where variable was the mean response to the five items. Participants were asked to indicate how they felt about each of

five statements assessing threat and risk to them of COVID-19 by selecting a response alternative that went from 1, not at all, to 5, extremely/a great deal.

Anxiety is a 6-item measure that assessed degree of anxiety associated with watching or reading about the war; responses went from from 1, not at all, to 5, extremely. Mean scores were obtained over six items.

Self-efficacy is a four-item measure that is adapted from Jerusalem and Schwarzer (1992).

Participants indicated how well they could handle difficulties by selecting the alternative that reflected how true each statement was for them, with response alternatives from 1, not at all true, to 4, exactly true. Mean scores were obtained over the four items.

Study Interference is a single item that assesses the extent to which watching or reading about the war had interfered with the participant's studies or employment. Responses went from 1, not at all, to 4, a lot.

War Worry is a single item stating, "In general, how much do you worry about the war?" Participants were asked to indicate their degree of war worry about the war by selecting a response alternative that went from 1, not at all, to 5, extremely.

Number of hours watching the war, was a single item stating, "In general, how many hours/per week do you spend watching or reading about the war on TV and/or the Internet, your phone, etc.?"

Participants responded with a number.

## **Ethics**

Ethics approval was received for data collection. In both samples, all procedures performed in this research were in accordance with the ethical standards of the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all participants in the study.

# **Analytic Plan**

Correlations were computed between number of hours watching the war, interference, and extent of war worry. Path analysis was used to examine the relationships among study variables in the theoretical model with the total each national sample using AMOS Version 28 (Arbuckle, 2021). Path analysis rather than structural equation modeling was used to assess the fit of the model to the data since the variables in our theoretical model were observed not latent. Path analysis is generally used when latent variables are not in the model ( Pituch & Stevens, 2016).

#### Results

Table 2 shows correlations between number of hours watching the war, interference of watching the war with studies or employment, and extent of worry about the war in both samples.

#### **INSERT TABLE 2**

Positive correlations were found between number of hours watching the war, interference of watching the war with studies or employment, and worry about the war, in both samples. Therefore, the more hours participants reported watching the war, the more watching the war interfered with their studies or employment, and the more they reported worrying about the war.

## **Results of Path Analysis**

Several fit indices were used to evaluate the fit of the theoretical model to the data in each national sample. A model is considered to have an acceptable fit with the data if the  $\chi^2$  statistic (Chisquare test) is non-significant. However, given the sensitivity of the chi-square statistic to sample size, several fit measures are generally used as well. Specifically, the Normed Fit Index (NFI), the Incremental Fit Index (IFI), the Comparative Fit Index (CFI), and the Tucker Lewis Index (TLI) should be greater than

.95 for an adequate fit, and the Root Mean Square Error of Approximation (RMSEA) and the Standardized Root Mean Squared Residual (SRMR) should be lower than .08 (Hu & Bentler, 1999). **German Data** (n = 342)

When testing the fit between the theoretical model (Figure 1) and the German data, the chi-square was significant ( $\chi^2(8)$  = 55.612, p < .001) which could be due to the large sample size. All of the hypothesized paths were significant (p < .05 or higher). The NFI = .824, IFI = .845, CFI = .842, TLI = .703, the RMSEA was .132 and the SRMR = .108, thus indicating that the hypothesised model was not a satisfactory fit with the data.

Three modification indices were indicated in the former analysis: A correlation between self-efficacy and gender, a path from self-efficacy to coronavirus threat, and a path from self-efficacy to war worry. Modification indices were considered in a judicious manner to improve the fit between the model and the data. These paths resulted in the greatest change to the overall model fit as seen in the next analysis. When the model was rerun with the German data with the three modification indices, the fit indices obtained indicated a better fit of the model to the data. The Chi-square was significant  $(\chi^2(5) = 15.731, p < .01)$ . The NFI = .950, IFI = .965, CFI = .964, TLI = .893, the RMSEA was .079 and the SRMR = .048, thus indicating an acceptable fit of the model to the data. Examination of the standardized path coefficients showed that worry about the war was associated with greater interference, and interference led to anxiety. Coronavirus threat led to anxiety, and war worry and anxiety were positively related. Gender was related to anxiety; women were higher on anxiety than men, and gender was correlated with self-efficacy, men were higher than women. Self-efficacy was associated with lower anxiety, less coronavirus threat, and less war worry (see Figure 2).

#### **INSERT FIGURE 2**

## Finnish Data (n = 213)

When testing the fit between the theoretical model (Figure 1) and the Finnish data, the Chisquare was significant ( $\chi^2(8) = 34.590$ , p < .001) which could be due to the large sample size. All of the hypothesized paths were significant (p < .05 or higher). The NFI = .862, IFI = .890, CFI = .887, TLI = .788, the RMSEA was .125 and the SRMR = .113, thus indicating that the theoretical model was not a satisfactory fit with the data. The model was rerun with the Finnish data using the same MIs that were used when the model was rerun with the German data, that is, the following paths were added: A correlation between self-efficacy and gender, a path from self-efficacy to coronavirus threat, and a path from self-efficacy to war worry.

When the model was rerun with the Finnish data with these three modification indices, the fit indices obtained indicated a better fit of the model to the data. The Chi-square was significant  $(\chi^2(5) = 14.804, p < .05)$  which could be due to the large sample size and small degrees of freedom (Kenny et al., 2015). The NFI = .941, IFI = .960, CFI = .958, TLI = .875, the RMSEA was .096 and the SRMR = .059, thus indicating an acceptable fit of the model to the data. Examination of the standardized path coefficients showed that worry about the war led to greater interference, and interference led to anxiety. Coronavirus threat was associated with anxiety, and war worry and anxiety were positively related. Gender was related to anxiety, women were higher on anxiety than men. Self-efficacy was associated with lower anxiety, less coronavirus threat and less war worry (see Figure 3).

## **INSERT FIGURE 3**

To summarize, in both samples, the revised model with the MIs was an adequate fit to the data.

Findings showed that worry about the war led to greater interference, and interference led to anxiety.

Coronavirus threat led to anxiety. War worry and anxiety were positively related. Women were higher

on anxiety than men. Self-efficacy was associated with lower anxiety, less coronavirus threat, and less war worry. In the German sample only, men were higher on self-efficacy.

## Discussion

The advent of the war in Ukraine has led to an unprecedented amount of attention all over the world. With social media ubiquitous, individuals everywhere can watch the war on TV and on various forms of social media. In recent times, it may be one of the most watched armed conflicts. Reports indicate that millions of people have been watching the war in Ukraine since it began on February 24, 2022 (Bauder, 2022). The present research is one of the first to systematically study psychological reactions to watching the way in Ukraine on social media. Previous research suggests that watching social conflict and violence on social media are associated with a wide variety of negative emotions, including anxiety. Moreover, reports suggest that anxiety, precipitated by watching social conflict, can result in people's thoughts and feelings intruding on their sleep and waking lives (Rozanov et al., 2019). The aim of the present research was to examine factors related to anxiety associated with watching the war in Ukraine in two independent national samples of university students in two European countries, Germany and Finland. It was reasoned that, since the participants were living in countries close to Ukraine, that is, in Germany and Finland, they would be anxious about the war and this would motivate them to watch it on TV and social media. A theoretical model was put forward where worry about the war is seen as related to interference with one's studies or work which, in turn, is seen as related to anxiety when watching the war. We reasoned that, to the extent that people worried about the war, they would experience negative thoughts that would

interfere with their studies or their work. The idea that worry or stress could be associated with intrusive or interfering thoughts derives from previous work showing that worrying (particularly, verbally-based worrying) about a distressing event, for even four minutes after witnessing this event (e.g., via a film), can lead to increased intrusions (specifically, intrusive imagery) up to 3 days after the original exposure (Wells & Papageorgiou, 1995). Next, it was reasoned that interference should be associated with anxiety experienced when watching the war. Coronavirus threat was expected to be related to war worry, and to anxiety while watching the war due to cumulative stress (Forgey, 2017) (. War worry was expected to be related to anxiety. Women were expected to express greater anxiety when watching the war than men. Lastly, higher levels of self-efficacy were expected to be related to lower anxiety.

Results of path analysis conducted separately in each sample showed first, all predicted paths were significant and in the expected direction in both samples. Second, the fit of the model to the data, in both samples, was improved with three modification indices: A correlation between self-efficacy and gender, a path from self-efficacy to coronavirus threat, and a path from self-efficacy to war worry. Moreover, these paths resulted in the greatest change to the overall model fit in both samples where all paths were significant except for the correlation between self-efficacy and gender, which was nonsignificant in the Finnish sample. Therefore with the additional correlations with self-efficacy, the fit of the model to the data was improved in both samples, thus underlining the importance of self-efficacy as a psychological resource in reducing distress associated with multiple sources. Even though the general model fit improved, some recommended cut-off criteria were not met for the Finnish sample. First, the Chi-square remained significant which might have been due to the large

sample size (Kline, 2016). Second, the RMSEA for the Finnish data was .096 which was higher than .08, the recommended value, which might be due to the small degrees of freedom (df = 5). In this case Kenny et al. (2015) advise using the SRMR which, for the Finnish sample, was .059, which islower than the recommended value of .08 (Hu & Bentler, 1999).

. As predicted, the present study found that the greater one's worry about the war, the more participants reported interference with their studies or their work. Further, anxiety, associated with watching the war, increased with more interference. Thus, interference appears to function as a mediator of war worry on anxiety. These findings parallel results of previous research (Surzkiewicz, 2022) that showed an association between war anxiety and negative persistent thinking about the Ukraine war.

Participants were asked to indicate how many hours/per week they spent watching or reading about the war and this served as a proxy for their engagement with the war. Moreover, since the theoretical model developed for this research was composed of psychological variables, number of hours, *per se*, was not included in the model. At the same time, positive correlations between number of hours watching the war and worry about the war, in both national samples, indicate that the more participants watched the war, the greater their worry about the war. That is, the greater their engagement with the war, as reflected in number of hours watching the war, the more participants tended to express worries about the war. Moreover, given that this study was cross-sectional, we cannot conclude that watching the war led to greater worry about the war. At the same time, our findings parallel studies using experimental methods that conclude that media exposure to large-scale violence can cause negative psychological outcomes (Hopwood & Schutte, 2017), thus providing some evidence

that exposure to war on social media leads to greater worry. Substantial past research in the area of media exposure to violence has, for the most part, used self-report survey methods. Many of these studies have reported strong relationships between media reporting disasters and violence, and negative outcomes such as anxiety (Schuster et al., 2001) and posttraumatic stress symptoms (Pfefferbaum, et al., 2014). Although they have ecological validity, nevertheless, these studies tend to be correlational: Therefore, people who watch violence on TV may experience anxiety. At the same time, people who experience fear and anxiety may tend to watch more traumatic news reports, possibly to seek out information.

Additional correlation results in the present study showed that in both national samples, the more hours spent watching the war, the more participants reported interference of watching the war with their studies or employment. This finding suggests that the distress associated with watching the war included cognitive disruption, a finding that has been reported in the past in research investigating the effects of watching media that featured social violence (Slater, 2007). Nevertheless, correlational results from this study have to be interpreted with caution since someare low in terms of effect size (Cohen, 1988). LMoreover, low correlations may be influenced by various factors such as measurement error or lack of statistical power, for example.

# **COVID-19 Threat**

Acknowledging that the war began (February 24, 2022) during the ongoing pandemic, the model put forward here includes threat associated with COVID-19 and its relationship to anxiety. Findings in the present study showed that, in both national samples, perceived threat

from coronavirus led to greater anxiety experienced when watching the war. Therefore, present findings suggest that threat from coronavirus spilled over to anxiety that was experienced when watching the war. While threat due to coronavirus was present before the war began, our findings suggest that watching the war added to the stress individuals were already experiencing due to the pandemic and particularly functioned to increase the anxiety they felt while watching the war on TV. Thus, there was a cascading of anxiety associated with two societal disruptions, the pandemic and the war in Ukraine. As Forgey (2017) has noted, cumulative stress may occur when multiple events occur within a relatively short period of time and the resulting prolonged stress can lead to long-lasting negative consequences (Forgey, 2017). Therefore, it was not surprising to find a significant relationship between the threat from the coronavirus and the anxiety related to watching the war.

# **Self-Efficacy**

In line with previous research (Kent & Gibbons, 1987; Benight & Bandura, 2004), self-efficacy was associated with lower anxiety related to watching the war as well as lower worry about the war, findings that were observed in both national samples. Thus, to the extent that individuals believed that they could deal efficiently with unexpected events and handle them well, that is, high self-efficacy, they were less likely to experience anxiety related to the war as well as worry about the war, findings that were observed in both national samples. This suggests that believing one has the resources to deal effectively with challenging and difficult situations is associated with less anxiety associated with the war, thus corroborating previous research of the role of self-efficacy in other spheres (Muris, 2002; Roick & Ringeisen, 2017).

Moreover, the negative relationship between self-efficacy, coronavirus threat, and war worry, as suggested in the modification indices observed in the path analysis, are congruent with theoretical conceptions of self-efficacy as the belief that one has the ability to successfully engage in behaviours to manage a difficult problem (Bandura, 1997) and findings that self-efficacy is associated with lower distress (Greenglass & Mara, 2012).

Additional findings in this study were that self-efficacy was associated with lower perceived threat from COVID-19 in both samples. These results parallel previous research showing that self-efficacy was associated with less perceived threat due to COVID-19 in an adult sample recruited through MTurk from Canada US, Germany, Italy and the UK (Greenglass, Chiacchia, & Fiksenbaum, 2021). Thus, present findings attest to the role of self-efficacy in alleviating anxiety and threat in two different social disruptions, the pandemic and watching the war. Taken together, our results in two samples attest to the robustness of the finding that self-efficacy is a valuable resource in dealing with perceived risk of the pandemic as well as anxiety associated with watching the war.

As predicted, in both samples, gender was related to anxiety associated with watching the war, with women showing greater anxiety than men, findings that coincide with those reported in the past (NIDA, 2020). At the same time, this research extends previous findings on gender differences in anxiety by demonstrating that women have greater anxiety associated with watching the war than men, findings unique to this study. Additional data showed that in the German sample only, men were higher on self-efficacy than their female counterparts, a finding that was not predicted. Previous research on gender differences and self-efficacy is mixed, with some research reporting no significant gender differences in self-efficacy scores

(Sawari & Monsour, 2013), while other research reports that females are higher than males (Tabak et al., 2003; Gurbuzturk & Sad, 2009).

Limitations. Reliance on cross-sectional data limits our ability to attribute causality to hypothesized relationships. While significant paths were found between variables in both national samples, in future, longitudinal studies would be appropriate in order to be able to attribute causality to variables under study. Another limitation of this research is the use of university students as participants which constrains our ability to generalize to other populations given the youth and inexperience of the participants. At the same time, research shows that young adults and university students are particularly vulnerable to psychological distress which can precipitate mental health problems (Lane et al., 2017; Merikangas et al., 2010). This may have exacerbated the relationships between anxiety while watching the war and study variables. By testing the theoretical model in other populations, the present findings could be further generalized.

# Validity of the Results

One of the strengths of this research is its focus on the relationship between anxiety while watching the war and threat related to two major societal disruptions occurring simultaneously, using data from two independent national samples. Further, analyzing data from Finnish and German university students, we find support for the hypotheses we put forth. The fact that the theoretical model, with three MIs, fit the data in both national samples, adds to the validity of the model. To the extent that the model was an acceptable fit to the data in both national samples, with some modifications, the validity of the theoretical model was increased. The robustness of the results and their generalizability are thereby increased by our use of two

independent national samples and the measures we took to ensure accurate modeling of the data in two independent samples. At the same time, the present results pertaining to anxiety while watching the war, have implications for supporting university students and may contribute to the development of focused support interventions, particularly when students are experiencing anxiety.

To summarize, the results of this study showed that anxiety related to watching the war was significantly associated with greater interference of watching the war with one's work or studies. More worry about the war was related to more cognitive interference in two national samples. Additional findings attest to the threat due to coronavirus and its association with anxiety when watching the war, suggesting a cascading of anxiety and threat associated with the pandemic and with watching the war. The findings showing significant negative relationships between self-efficacy and anxiety, war worry and coronavirus threat, underline the importance of self-efficacy as a psychological resource in alleviating anxiety. The present findings have implications for helping university students deal with anxiety and may contribute to development of focused support interventions. An implication of these results is that, during a social disruption, it may be possible to introduce interventions that can be implemented to strengthen individual self-efficacy and thereby lessen people's anxiety when managing these events.

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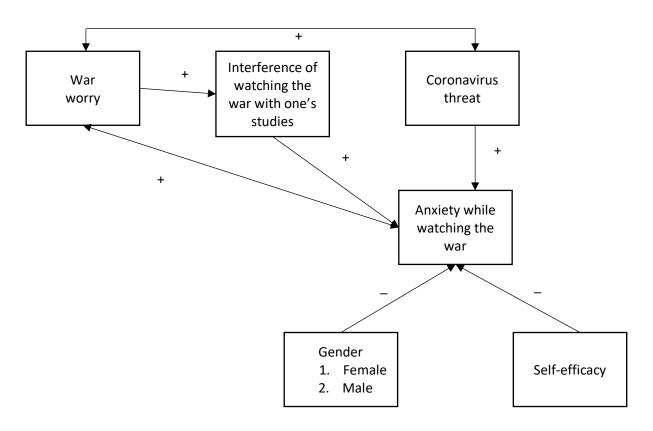
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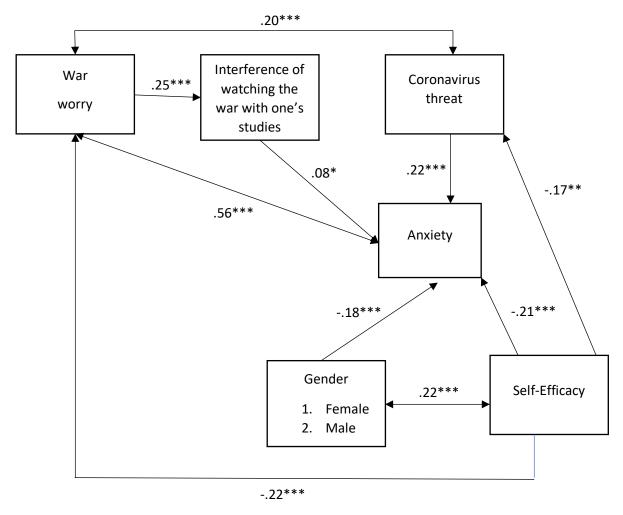
# **Figures and Tables**

Figure 1

Anxiety When Watching the War: Theoretical Model

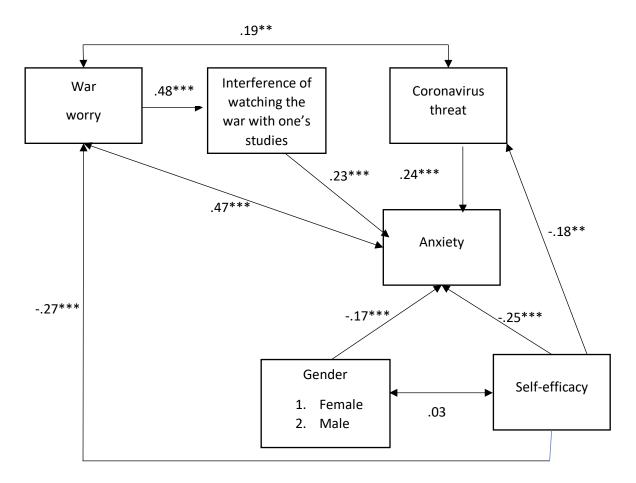


**Figure 2**Anxiety When Watching the War: Standardized Path Coefficients for the German Sample



*Note.* Coefficients presented are standardized linear regression coefficients. \*p < .05. \*\*p < .01. \*\*\*p < .001.

**Figure 3**Anxiety When Watching the War: Standardized Path Coefficients for the Finnish Sample



Note. Coefficients presented are standardized linear regression coefficients. \*p < .05. \*\*p < .01.

<sup>\*\*\*</sup>p < .001.

**Table 1**Descriptive Statistics, Reliabilities of Variables, and Summary of the Variables

| Measure                        | Authors  | Number<br>of Items | Sample Item  | Finland<br>( <i>n</i> = 228) |      |     | Germany<br>( <i>n</i> = 348) |      |     |
|--------------------------------|--|--------------------|--|------------------------------|------|-----|------------------------------|------|-----|
|                                |  |                    |  | М                            | SD   | α   | М                            | SD   | α   |
| Coronavirus<br>Threat          | Chiacchia et al., 2022                                     | 5                  | How much do you feel threatened [by the coronavirus]?  | 2.05                         | .88  | .91 | 2.41                         | .92  | .91 |
| Anxiety                        | Shacham,<br>1983   | 6                  | Using the scale below, indicate your feelings when you watch the war or read about it. Anxious                                 | 2.83                         | .98  | .89 | 3.17                         | .90  | .88 |
| Self-Efficacy                  | Adapted<br>from,<br>Jerusalem<br>and<br>Schwarzer,<br>1992 | 4                  | I am confident that I can<br>deal efficiently with<br>unexpected events.   | 2.96                         | .61  | .82 | 2.71                         | .51  | .75 |
| Study<br>Interference          | The researchers  | 1                  | To what extent do you think watching or reading about the war has interfered with your studies or your employment?             | 2.09                         | .78  | _   | 1.68                         | .72  | _   |
| War Worry                      | The researchers  | 1                  | In general, how much do you worry about the war?   | 3.52                         | 1.02 | -   | 3.50                         | .93  | -   |
| # Hours<br>watching<br>the War | The<br>researchers   | 1                  | In general, how many hours/per week do you spend watching or reading about the war on TV and/or the Internet, your phone, etc. | 4.50                         | 4.86 | _   | 4.95                         | 6.19 | _   |

 Table 2

 Correlations between Number of Hours watching the war, Interference and War Worry

|                    | Number of Hours watching the Wa |           |  |
|--------------------|---------------------------------|-----------|--|
| Study Variable     | Germany                         | Finland   |  |
| •                  | (n = 348)                       | (n = 228) |  |
| Study Interference | .125*                           | .397***   |  |
| War Worry          | .191***                         | .284***   |  |

*Note.* \**p* < .05. \*\**p* < .01. \*\*\**p* < .001.