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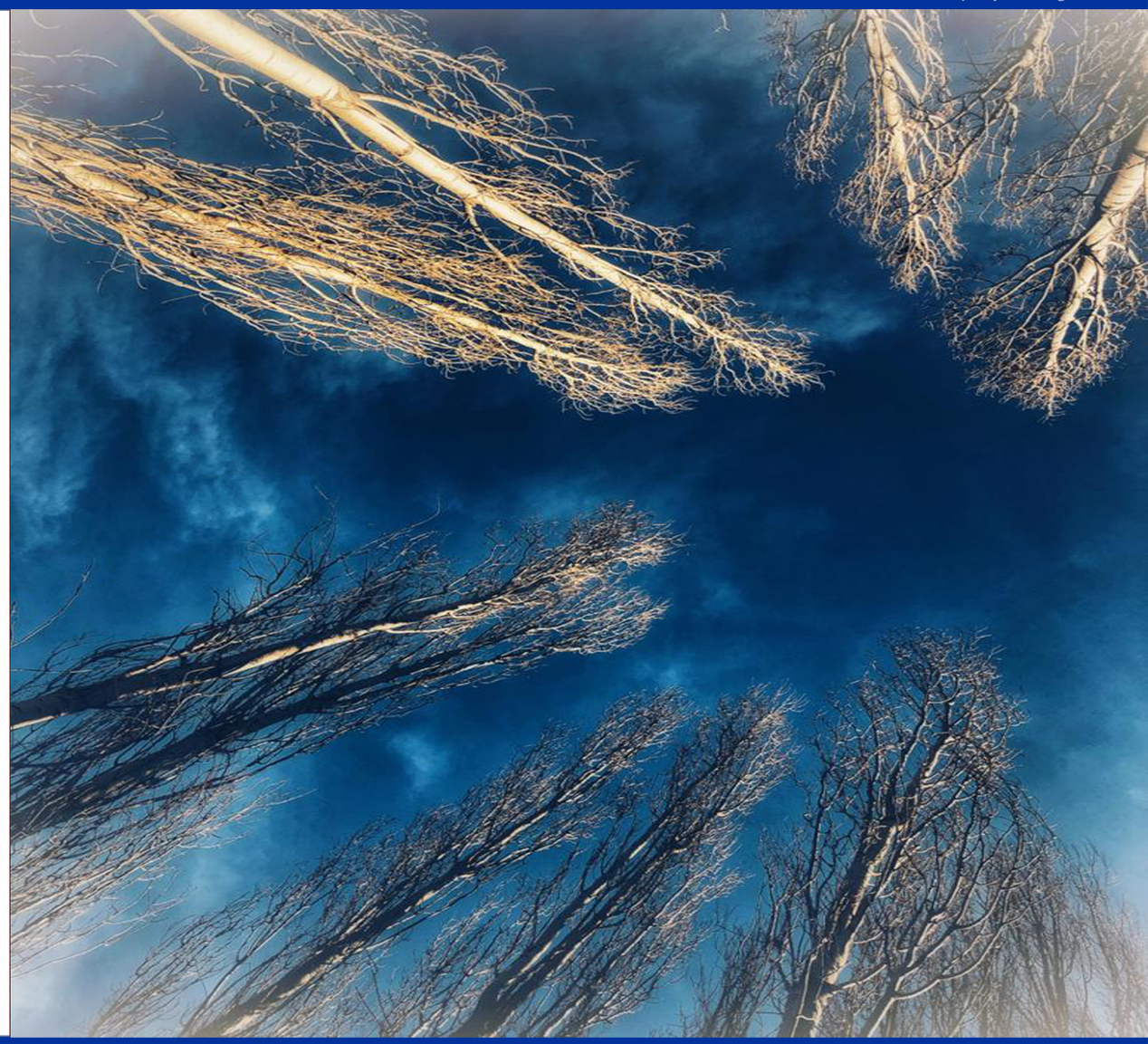

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Connected Minds, Disconnected Bodies; The Somatophobic Era of Corona

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After three months of the Covid-19 pandemic, it seems that we have gotten used to being visible, but untouchable.

It seems that corona has swallowed most of our third dimension and most of the time we, interpersonally, are texts and voices with/without two dimensional pictures.

I do not want to deliver apocalyptic verses for wandering minds or blow into Israfil's horn for lost bodies. I am merely trying to shed light on postcoronal bodies.

The process of reducing bodies to images was established mostly in the 20th century by the fashion and advertisement industries, and cinema and TV and was sustained by the ever-spreading social media. With the current pandemic state and its social and psychological consequences, the digitalization of the body has jumped to a higher level.

However, internet dependency induces some degrees of locus of control externalization, objectification of individuals, and alienation. Systematic mind control and the instability of social identity are the main processes that facilitate these internet-induced adverse effects.

on the other hand, we must admit that this unprecedented rate of body transportation and huge amount of energy consumption were becoming overwhelming for the earth. Corona, obviously, reduced these burdens and gave the earth's lungs some fresh air.

It is not surprising that the earth may tolerate these digitalized bodies more than those fast track bodies. Furthermore, physical presence and tactile contact are not necessary for intimate relationship, functional communication, or even the experience of presence.

Others' bodies, and of course, our own bodies for others have become a threat as carriers of Corona virus. There is a paradoxical orientation against others' bodies and towards others' souls; a dilemma between death and desire. It makes the body an

object; a complex phenomenon which is made of an object of death, an object of love, and a subject of care.

What HIV did with the sexual body, Corona virus is now doing with the social body; wandering bodies between love, death, and care. Our bodies have to withstand greater degrees of loneliness, fear, and rejection in local contacts while getting caressed more by nonlocal contacts.

Our bodies are gaining many benefits from this distance and it may change our preferences and even the expansion of our proxemics. We feel more secure and intimate through distance than proximity. By this distancing power of quarantine, does being close still mean being secure and intimate? Yes, I think. Because our relationships, even before the visualization era of media and especially after childhood, have always been more nonlocal than local. We feel others in our hearts (read embodied minds) and imagine them in our heads (read symbolic minds). Relatedness and rootedness are more nonlocal feelings and beliefs. Evidently, they are symbolized forms of early childhood sensory-motor patterns and they are empowered by physical presence and contact, but they are developed imaginarily and symbolically. Our words, intonation, mimic, and gesture transfer the warmth of our bodies, and more or less, our bodies reflect each other even without the magic of touch. I prefer to be welcoming of digital bodies and nonlocal communication as real intercorporeal experiences, but allow me to be enthusiastic about enjoying the familiar fragrance of my friends and drinking coffee with them while I feel the vibration of their bodies–of course as soon and safe as possible. I can simulate all of them in my mind, but they are not timely and marvelous.

On the one hand, having a body in communication can stabilize our social identity, make our presence more contingent and deep, and provide a warmer intercorporeal field to heal loneliness. On the other hand, internet-based communication provides a collective and accessible mind in which we can share our ideas and emotions and have a ready in hand being-with experience.

Conflict of Interests

Authors have no conflict of interests.

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Coping Skills in Patients with Diabetes

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Any changes in a human's life, either pleasant or unpleasant, require re-adaption. Coping strategies for life changes and tensions caused by these changes differ in different people in various situations. Diabetes mellitus (DM) is one of the highly prevalent stressful diseases. At present, the prevalence of diabetes has been estimated to be 4% throughout the world, and it is expected that this rate will increase to 4.5% by 2025 (Iturralde, Weissberg-Benchell, & Hood, 2017). DM is a syndrome in which carbohydrate, fat, and protein are disrupted due to the lack of insulin secretion and tissue sensitivity to insulin (Huang et al., 2016).

Children have difficulty dealing with the condition, sometimes experiencing thoughts of distress, depression, and fear during the initial phase of DM diagnosis; 30% have psychiatric attachment disorder in the third month following diagnosis (Northam, Matthews, Anderson, Cameron, & Werther, 2005). These difficulties are often resolved in the first year, but poor adaptation in this initial stage puts children at risk of later psychological difficulties (Dantzer, Swendsen, Maurice-Tison, & Salamon, 2003). Multiple studies have shown depression in 10-26% of adolescents with DM (McDonnell, Northam, Donath, Werther, & Cameron, 2007), and anxiety and disorderly activity in 12-20% of adolescents (Leonard, Jang, Savik, Plumbo, & Christensen, 2002).

Similar to the term stress, there is still no agreement on the definition of coping. However, as a general term, it is defined as various areas of behavioral, cognitive, emotional, and physiological functions. It is defined within the context of certain cognitions or behaviors, or in total, as any response to stress (Reid, Dubow, Carey, & Dura, 1994). Coping has been investigated for more than 3 decades by social science researchers. Lazarus and Folkman (Lazarus, 1991) stated that coping is the intellectual, emotional, and behavioral attempts of a person when facing mental pressures in order to overcome, tolerate, or minimize the consequences of stress. In other words, coping requires mobilizing and training forces and energy of a person, which are obtained through training and trying; therefore, it is different from tasks that are automatically done (Aldridge & Roesch, 2008). Sometimes, coping appears in the form of reforming or eliminating problems, or the mindset of a person about the problem, or learning how to tolerate and accept it (Folkman & Lazarus, 1980). In addition, coping with communication conflict can take the form of quitting the relationship or creating strategies to improve the relationship. Moreover, coping is defined by the attempts conducted to explain various strategies of responding to stress and entails various areas of psychology like animal experiments, ego psychology, and cognitive psychology (Chouhan & Shalini, 2006).

Coping styles are strategies that reduce stress, but maladaptive coping technique are those that increase stress. Some comparative researches focus on styles, some of them focus on processes, and some other on strategies. The concept of style suggests that people have a certain view and are constantly regarding their coping methods. The concept of process or strategy suggests that people have various coping strategies based on their period of life and position requirements (Bagherian Sararoudi, Ahmadzadeh, & Mahmoudi, 2009). It should be mentioned that the first coping models introduced by researchers based on ego psychology highlight defensive mechanisms and conscious and unconscious processes to cope with stress. Furthermore, researchers have attempted to create a classification system to classify coping styles based on the degree of psychological maturity or level of adjustment of these styles. However, researches in this theoretical framework have been criticized because of their very small sample size, low reliability of evaluators, and lack of attention to stressful situation characteristics (de, Groot et al., 2010).

Many studies have examined the relationship between coping strategies and diseases. There is a great deal of evidence illustrating that patients have less flexibility in their ability to solve problems or coping strategies. Furthermore, the application of active coping strategies has been linked to medication adherence in the management of stressors related to disease, and emotional approaches are related to tolerance when stressors linked to the disease are considered to be uncontrollable (Yoshida et al., 2018). Moreover, coping strategies have both negative and positive effects on health behaviors. In alcohol dependent individuals, active and cognitive coping strategies can lead to a reduction in pain and alcohol abuse in the long run.

In contrast, avoidance coping strategies are associated with mood disorder. DM symptoms and patients' need for self-care create numerous challenges in the daily lives of patients necessitating healthy coping behaviors for more adaption. Coping strategy can play an important role in the processing, management, treatment, and mental-social adaptation of patients with DM (Albai, Sima, Papava, Roman, Andor, & Gafencu, 2017). In addition, coping strategies used by these patients can have a key role in maintaining or increasing the duration and level of mental-social adaption. Coping styles in patients suffering from DM have been the subject of many

discussions. Some researchers claim that problem-focused methods can increase self-care in patients with DM, but can have harmful effects (Turan, Osar, Molzan, Damci, & Ilkova, 2002). However, a wide range of coping behaviors have already been identified as effective in reducing stress, including problem-scoring and emotional coping strategies.

Therefore, passive coping strategies may be an unknown obstacle to self-management of DM. For instance, Moody-Ayers, Stewart, Covinsky, and Inouye (2005) found an association between fair/poor self-rating health, low-income, and female coping with perceived social racism among 42 elderly African Americans with type 2 DM. Boulware, Cooper, Ratner, LaVeist, and Powe (2003) in their longitudinal assessment of bias management, reported a correlation between passive copying and poor health outcomes. They also noted that active coping strategies can have unintended
side-effects, such as inducing or aggravating individual conflicts, and that further research is warranted in order to understand the effectiveness and the relationship between different coping responses.

Despite the limitations in literature related to coping, interest in coping processes and styles is increasing. Furthermore, more researches are required in order to determine the contexts in which coping strategies are more applicable. Coping skills training has been observed to have a considerable effect on improved performance and increased quality of life (QOL) of patients with DM. The results of studies indicate that the most common problem of these patients is paranoia, and the least common is a phobia. In addition, insulin-dependent patients are more obsessive and aggressive compared to noninsulin-dependent patients.

Moreover, diabetes and patients' need for self-care create numerous challenges in their daily lives necessitating healthy coping behaviors for more adaption. The amount of coping mechanisms used in DM adaptation and the self-care condition of DM patients are closely associated. Studies on the connection between coping and health effects should therefore be expanded to include other health effects in future studies. Future studies should therefore be based on a preliminary analysis.

Patients have different DM self-care strategies that are influenced by their health value. Moreover, their diets and exercise decisions can be affected, blood glucose monitoring frequencies are monitored, and drug regimens are complied with. Evaluations and interventions need to be comprehensive, and integrated theories must be available to study human behavior in order to understand the full range of DM self-care. It is necessary that greater attention be paid to patients' self-care strategies and self-care protocols be tailored to each individual patient. Self-care training can help people with poorly controlled DM or people who want to make their self-care regimens more flexible. In advising patients on self-care, the type of DM should be taken into consideration.

Conflict of Interests

Authors have no conflict of interests.

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The ambiguity of the psychological limitations of globalization Or: an uncanny cocktail of viruses

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Theoretical Study

Abstract

The Coronavirus epidemic has become a pandemic. The induced crisis has had a global impact. Moreover, there is an uncontrollable interplay between the coronavirus, panic as an emotional virus, viral communication, and the economic and political borderline experience. The world is facing an unprecedented factual and psychological challenge. People are therefore seeking emotional orientation and protection above all in their own group, family, close friends, and nation. However, this often leads to radical dissociation from other groups or nations. This functions in the sense of a psychological defense as a group and is a normal process during an epidemic. In the past two decades, globalization has focused on boundless performance and efficiency increase. In doing so, it has not sufficiently taken people into account; one could say that globalization does not respect humans as humans. It is in danger of succumbing to a narcissistic fantasy of omnipotence. The current virus crisis is holding up its own mirror to the world. It therefore functions as a psychological disillusionment that seems to have the entire world under control. People and nations feel the limits of what is possible. They experience their powerlessness and fall into a state of panic that seems to paralyze people. There is no doubt that medical, economic, and political action is absolutely necessary. A far greater challenge is to reach people with their very own concerns and needs. This cannot be achieved through political war rhetoric. It can only be done if people and nations become aware of the competence of ambiguity tolerance. This, combined with the development of an experienceable and visible sense of community, strengthens resilience, namely, one's psychological resistance.

Keywords: Virus crisis, Globalization; Panic; Narcissistic omnipotence; Resilience; Tolerance of ambiguity

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Introduction

For a good 3 months now, the coronavirus has dominated the global headlines. While initially only seen in China, it has now spread all over the world. The coronavirus has now swept over politics and the global economy and is causing global panic. The growth of the world economy has also been infected; this is happening globally, simultaneously, and in real time.

The debate over the virus is, one might be inclined to say, related to a factually and psychologically seen pandemic in nature, by this I do not only mean the reporting of the dangers of the coronavirus:

It is not only the Coronavirus which matters in times of globalization

We are talking about a specific biological virus. "It's about panic as an emotional virus. It is about digital, viral communication via media, especially social media as the third virus" (Sollmann, 2020b), and the economic dynamics as the fourth virus. It now seems to make no difference from which angle you look at all this, so you really have to be aware of the other viruses at the same time. So, how do we handle this impact?

Currently, the world is not controlled by only four viruses. "Rather, the world seems to have drunk a cocktail of viruses that has thrown it considerably out of step" (Sollmann, 2020b), a cocktail that has had similar effects in many parts of the world. So, we are all in the same boat.

But we do not feel accordingly and we do not act accordingly.

The shock accompanying this has triggered a deep, overwhelming, and almost uncanny reaction of global uncertainty. All over the world, nations, societies, and people, are experiencing themselves as being threatened and attacked by an external, invisible enemy. This seems to be an enemy you have to be aware of everywhere in the world.. This enemy has influenced the world like a tsunami and threatens to inundate old, familiar securities. Thus, it is not astonishing that many politicians like Trump and Macron use war rhetoric like: "we are in a war", "corona is the enemy", and "when will we win the battle".

This rhetoric reflects three psychological mechanisms:

1. "We can feel secure within our group, our nation. The enemy is outside."

2. "As long as we are fighting the enemy outside, we can be sure that we are in control of the situation. We can rely on our weapons" (But this of course is an illusion).

3. Nations seem to act as if they can survive only by themselves. This is by no means a spontaneous, natural reflex to globalization. At this instant, it has become clear that people no longer believe in what is called globalization (Globalization 101, 2020). Globalization has become the opponent (an enemy?) to fight against existentially.

"Globalization is a process of interaction and integration among the people, companies, and governments of different nations, a process driven by international trade and aided by information technology. This process has effects on the environment, on culture, on political systems, on economic development and prosperity, and on human physical well-being in societies around the world.

Globalization is not new, though. For thousands of years, people—and, later, corporations—have been buying from and selling to each other in lands at great distances, such as through the famed Silk Road across Central Asia that connected China and Europe during the Middle Ages.

This current wave of globalization has been driven by policies that have opened

economies domestically and internationally. Many governments have adopted free-market economic systems, vastly increasing their own productive potential and creating myriad new opportunities for international trade and investment. Governments also have negotiated dramatic reductions in barriers to commerce and have established international agreements to promote trade in goods, services, and investment. A defining feature of globalization, therefore, is an international industrial and financial business structure. Technology has been the other principal driver of globalization. Globalization is deeply controversial, however." (Globalization 101, 2020).

Psychologically speaking, the boundaries between cultural and social identities are becoming blurred. A feeling of "world identity" has been created, suggesting orientation, appreciation, group membership, and security. But people and cultures are different, people and cultures need identity, as expressed for example in national identities, I am German, Chinese, or Iranian. But people also need a *felt identity*, which is created on the basis of a common experience. This is essentially characterized by a perceptible, tangible, experienced, and familiar togetherness in the community of those with whom one shares one's life, one's everyday life, and the fulfillment of life. This is what I understand as a felt "community identity", among other things. The more you are familiar with this, the earlier you can open up to another identity or representative of a cultural identity like a Chinese, Iranian, or American. To put it in a nutshell, the sensed and felt "I" can encounter the felt and sensed other.

Thus, we are the same and different at the same time in this era of globalization.

The opponent is not only the coronavirus. Panic is also experienced as an opponent, like something that threatens to fall on you and the world. The viral communication of panic infects people when they look for information or want to exchange information with friends and relatives. It will hit people and cause panic, rumors, hostility, exclusion, discrimination, and of course unconscious emotional suffering. And you try to protect yourself against this viral opponent.

Psychological aspects of globalization

In the beginning, there was the fear of the virus, then, viral panic, the viral communication, the threat of economic collapse, and now, the interaction of globally changing scenarios of political and psychological demarcation. This is being lived right now in Europe, Germany, America, etc. Many people and nations hope for mental and factual orientation and security through this. True to the motto: "my leaders will manage it". However, this overlooks the fact that the political leadership of a nation is, especially now, as much at the mercy of feelings of insecurity, fear, powerlessness, etc. as the individual. They too are humans and not at all prepared for such a pandemic and devastating experience. Sociologically, it is appropriate that they in their role and this specific crisis act directly, here and now with a "strong hand".

German Chancellor Angela Merkel expressed this emphatically in her speech to the nation on 18 March 2020. The war rhetoric of other leaders like Macron, Trump, and Johnson therefore functions as psychological defense. This rhetoric also promotes nationalist aspirations and intensifies the tension between perceived identity and "world identity".

Instead of experiencing the world and oneself as "I and you", one distinguishes between, and separates "I from you".

If one follows this kind of rhetoric, one is deceiving oneself about the very fragile and unstable worldwide state of being during this Corona crisis, is likely to succumb

to the danger of one's own narcissistic hubris, and will fail to recognize that the corona crisis holds up its own mirror to people and societies. Now, at the limits of globalization, at its breaking point, we recognize the dangers of overestimating ourselves. But we also fail to recognize the need to look at people, at their very own needs, feelings, and cultural differences, and at their very personal sense of the situation. The war rhetoric seems to be another attempt to make us believe that we have everything under control. At the same time this devaluates the "other", the counterpart.

But globalization, as I referred to above (I referred to the kind of globalization created during the last 30 years), does not have enough respect for humans. Globalization ignores them by preaching the dictate of limitless performance and efficiency. It makes people believe that that which is called globalization will provide orientation, security, limitless growth, and contentedness as well as happiness.

This kind of globalization is, however, an abstract for the experience of people, an undertaking that will never be sensually experienced by the individual. Globalization could therefore be understood as a promise of orientation, security, and identity, a promise of contentedness and happiness. Globalization is a promise that simply cannot be achieved, and it is now being exposed as such by the present crisis. It remains a deceptive promise.

Individual trauma, globalization as trauma, and traumatization of globalization

It is not surprising that people want the experience of security, not the promise of it. They seek sensed protection, which is often expressed in the desire to belong to a group. This room is expected to be a safe room, a space in which to shelter oneself against subtle or open psychological shock and traumatization. Such an effect, which functions "automatically", happens everywhere in the world, both in places where there is an external violent impact by the virus and/or spaces which are not yet infected by the coronavirus. Against the background of the SARS epidemic of 2002/2003, it also has retraumatizing features.

Trauma researchers speak of "...a vital experience of discrepancy between threatening situational factors and individual coping possibilities, which is accompanied by feelings of helplessness and defenseless abandonment and thus causes a permanent shaking of self and world understanding" (Fischer & Riedesser, 2009).

This personally experienced and socially manifested shock thus amounts to personal traumatization. In addition, it also globalizes this personal experience. Specific patterns of experience, behavior, and reaction are thus also visible as an expression of social and cultural experience. This can be called a pattern of a traumatized globalization. In China, they often say: "we are all suffering, we as a society are suffering again like we have the last 200 years".

Resistance and discrimination

How do you encounter, sense, and experience people who are (possibly) infected by the virus, like those who come from China, but live thousands of kilometers away from the immediate crisis area around Wuhan? How can you live with the flood of polarizing and devaluating comments of social media? How can you live with the "black or white" media coverage? How can you hide away from discrimination, exclusion, and xenophobic reports like that in Germany and other countries against people who have a Chinese appearance? How can you feel safe and strong when trying to defend yourself against this influence? The cover story of "Der Spiegel" and front page of the issue of February 1st 2020 are striking examples. This kind of cover story gives the impression that SarsCov2 was manufactured in China ("Coronvirus:

Made in China") (Spiegel, 2020). This kind of implicit, suggestive message conveys that again China is regarded as a dangerous red dragon. This arouses not only consternation, but also outrage at the viral effect of such a message. Most recently, it can be assumed that (not only) Der Spiegel readers need to know where the enemy is situated. And once they have identified the enemy, they can feel safe again. As can be seen in the title of the cover story of "TIME" in the US ('Our Big War' As Coronavirus Spreads, Trump Refashions Himself as a Wartime President).

Quite quickly, not only in Germany, but also other parts of the world there was a clear resistance to turning one's attention to this war. Even if a war-metaphor divides the world into friend and enemy, one can not help but acknowledge the fact that the virus has spread all over the world and does not differentiatebetween friend and enemy. There is a part of society and media which represents the so called "hard facts". They compare the current development with other big influenza-waves in Germany (e.g., Germany 2018). It is said that the 900 deaths (as of 10.02.2020) from corona are no reason for panic compared to the 20,000 deaths due to winter flu in Germany in 2018 (Sollmann, 2020b). Then, there are the representatives of compartmentalization. They suggest that if the external borders were tight, then one would be sufficiently secured. This means that nobody from the outside would be allowed to enter the country, and if someone did, he would be quarantined for two weeks. Those who personally want to be on the safe side hang a sign that prohibits Chinese-looking people from entering their restaurant, as they did so in Germany.

This is no longer only directed toward Chinese people, but also toward people from Italy and France, and even people from the highly infected areas in Germany, with the motto: the enemy is everywhere.

Then, there are those who play the role of world explainers from a safe distance, often overstraining one or the other perspective, but not including themselves. Not to mention those who want to rise above everything through satire. We should also mention that those who fall into old accusation behavior and divide the world into good and evil by pointing their journalistic index finger (once again) at China, as is being done in the US and Germany. The opposite is also true as China for example points its finger at the US and accuses the US of discrediting China again and again. In Germany there often is a deep anxiety toward foreigners, you may call it xenophobia. The political and cultural resentments now reported on a daily basis are unparalleled in history. There are those who see their prejudices confirmed, but who are angry about them in a small circle, silently, what would have been in former times called "nobly restrained". Nothing really changes then.

Thus, seeking protection means I am ok, even if you are not ok.

Looking at myself as an emotional mirror

All these people seem to have something in common. They feel deeply insecure in themselves and within the world and know not how to react well when confronted with the uncanniness of this virus cocktail. They are afraid, even if they do not want to admit it to themselves. Their behavior and their psychological strategy of defense, of resistance to a balanced view of the situation can be seen as signs of this fear (Sollmann, 2020b).

I myself know how difficult this is. In my blog post about Wuhan from February 1, 2020 (https://www.focus.de/11612919), I tried to describe factually typical Chinese behavior patterns in dealing with a crisis in order to make the situation more comprehensible. But at the same time, as I have since understood, I reported "too objectively distanced". As an expert, I did not think I "should" become personal or

even emotional. In writing about the Chinese suffering in such a situation, which is unbelievably terrible, as an expert I cannot remain so distant. As a person, I could not perceive that this also includes me and us here in Germany (Sollmann, 2020b); we also drank from the virus cocktail.

Drunk on the virus cocktail, I thought that the expert role could offer me sufficient protection and security in this global event, protection against the possible emotions of fear and insecurity. Writing in this way I now understand that I unconsciously took the risk of losing human empathy for the people in Wuhan and in China. I failed to see their traumatic experience, to which, if I saw them, I would have to react very differently. This almost made me lose track of myself emotionally.

The security I secretly hoped for in the expert role, therefore, turned out to be deceptive. It offered me (only) security in the group of experts, but at the same time it separated me from the group of people who were flooded by the effects of the virus cocktail, and I am one of these people.

One can assume that now (May 2020) the entire world has been infected by the tsunami of the virus-cocktail. This happens with a variety of intensities and through changing ways of effect. Therefore, it is no longer helpful to only look for security in any one subgroup. We have to seek emotional protection and security by being open with all our senses, which can help us experience the Covid19-crisis not only as a crisis caused by the biological virus. By doing this, I experience myself as a human being in relation to other people. I feel the emotional similarity that we have in common despite our different social and cultural experiences. I experience myself as I feel now, similar to my counterpart and yet also different from my counterpart. To accept the difference and the similarity as they are, namely, to respect both as equal by being different, can be the emotional light on the horizon.

As a result of this impressive experience, I know that not only the other is other, but I am also other (to myself).

Tolerance of ambiguity as part of resilience

Psychologically, being able to sense and experience the emotional similarity of humans resembles the competence of ambiguity. Competence of ambiguity is the quality of being open to more than one interpretation, inexactness. Social-psychological competence is called tolerance of ambiguity, sometimes also referred to as uncertainty or uncertainty tolerance. It is the ability to endure ambiguous situations and contradictory ways of feeling, sensing, and acting. Persons tolerant of ambiguity are able to perceive ambiguities, i.e., contradictions, cultural differences, or ambiguous information that seems difficult to understand or even unacceptable without reacting aggressively to them or evaluating them unilaterally negatively or - often in the case of culturally determined differences - unreservedly positive. The better you can sense yourself in this process, the better you are able to sense your own compass within a globalized world.

After all, we know from resilience research that there are at least four factors that make protection, security, and recovery possible. Resilience means, among other things, the ability not to give up on oneself after several blows of fate and to manage to steer life back into positive directions. These four factors are:

- Alone is by no means good.
- Resources must be available or jointly developed to meet these requirements.
- Confidence can be established and experienced by personal effort and a corresponding experience with others.
- Experiencing and regaining confidence helps people to again experience life

as predictable, understandable, and explainable.

Therefore, the basic experience is that one cannot overcome such situations alone. Together with other people, one can find hope again and regain control of a bad situation. Xenophobia is a bad advisor. Trust in oneself is necessary and helpful. It is also helpful to realize that other people and countries in the world like China, Iran, and Italy are also infected. Even if there are differences in the extent of infections, each one will realize that we are all part of the same game. Only the group of people affected can provide protection and security. Pulling together can regain hope and control of the situation. Trust in oneself and in one's counterparts, here in Germany as well as among the people in China, Iran, Italy, or elsewhere can disenchant one with the virus cocktail.

If dialogue is a globally accepted, desired, and valued form of global communion and does not remain merely an announcement of itself, it will act as *an art of thinking together*. This transforms communication into an art, namely, to give both oneself and others the same right to think independently and to respect each other in the relevant exchange. This is an essential difference to a cocktail. While in a cocktail the ingredients are mixed without being individually recognizable or perceptible, the art of thinking together is distinguished by "I am when you are (also when being different)".

Conflict of Interests

Authors have no conflict of interests.

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Three Health-related Paradoxes in the COVID 19 Pandemic

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Theoretical Study

Abstract

Health is enigmatic in nature, in the sense that people pay attention to it when they have lost it. This enigmatic nature of health is the context for expressing health-related paradoxes. The paradoxes of digitalization, isolation, and prevention that have become prominent in the COVID 19 pandemic are elaborated in this article. The digitalization paradox demonstrates that we have procrastinated in digitalizing daily life, but have the digital tools to communicate with others and share information in quarantine. The isolation paradox means that "social distancing" is required to prevent infection, but loneliness can make us sick. The "paradox of prevention" arises when reducing the risk of persons in medium-risk to low-risk groups has a greater impact on the overall risk in the population than only reducing the risk of persons in high-risk groups. All three paradoxes reflect the complexity and uncertainty of circumstances in a pandemic and the need for medical humanities.

Keywords: COVID 19; Health related paradox; Medical humanities; Digitalization paradox; Isolation paradox; Prevention paradox

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Introduction

According to Gadamer (1996), health is enigmatic in nature, in the sense that people pay attention to it when they have lost it. Thus, both health and disease are concepts that are tied to crisis and loss that leads to a continual crisis in medicine. Other factors such as resource constraint may also contribute to this continual crisis. The enigmatic health is the context for expressing health-related paradoxes. Some of these paradoxes become prominent in an epidemic. In this article, three of these health-related paradoxes are elaborated.

Paradox of Digitalization

On the one hand, the world, which is becoming more and more digitalized, has changed many of our traditional notions of life. Digital-age children try to enlarge the pages of a printed book with their fingers like a tablet. Before the Corona epidemic, many of them thought that the virus was related to the cyber world and was infecting more computers than humans. The Corona epidemic has restored the real-world concepts that cyberspace has seized. In other words, reality seems to be taking revenge. On the other hand, digitalization seems to be more important than ever. During the Corona period, it is becoming clear that we have procrastinated in digitalizing work, education, etc., but have the digital tools to communicate with others and share information in quarantine. It seems that in order to return to reality and revive the lost human connection, we need cyberspace, which primarily dissociated and disconnected us from reality; this is paradoxical. In order to understand the digitalization paradox completely, we need to reformulate the isolation paradox.

Paradox of Isolation

This paradox was first coined in the 1960s by Amartya Sen (Newbery, 1990). His formulation of the paradox of isolation is economical, but here we have adjusted it to the Corona pandemic as follows: "social distancing" is required to prevent infection, but loneliness can make us sick. Diego Dalgado (https://www.healthing.ca/diseases-and-conditions/coronavirus/the-paradox-of-distancing-and-cardiovascular-disease), a cardiologist, has used the term distancing paradox by citing studies that show an increased risk of cardiovascular disease in isolated people. In a paper on domestic violence as a consequence of homelessness, the more general term pandemic paradox (https://onlinelibrary.wiley.com/doi/abs/10.1111/jocn.15296 is used).

Reflecting on the isolation paradox not only reminds epidemiologists to pay more attention to the socio-cultural and psychological consequences of their interventions, but also emphasizes the importance of empowering people to understand and tolerate loneliness. Winnicott (1958) considers the capacity for loneliness to be one of the most important signs of maturity in emotional instability and transformation. In an article of the same title, he attributes the capacity for loneliness to the mother-infant relationship and childhood structures. "It is probably true to say that in psycho-analytical literature more has been written on the fear of being alone or the wish to be alone than on the ability to be alone; also a considerable amount of work has been done on the withdrawn state, a defensive organization implying an expectation of persecution" (Winnicott,1958)

It is important to make a distinction between voluntary loneliness and forced loneliness, as we encountered in the Covid 19 pandemic. In the latter, an important consideration would be to seek interventions that empower individuals, allowing

them to manage their own loneliness by accepting that loneliness may accompany us through our lives, while at the same time promoting the community through which "they can manage loneliness." Loneliness management is not just about mental health, but also about many social aspects of the disease, such as fear of visiting medical centers and neglecting other diseases because of the fear of getting Covid 19 (Yanguas, Pinazo-Henandis, Tarazona-Santabalbina, 2018). In the face of forced loneliness caused by the Covid 19 pandemic, intellectualization, as a defense mechanism, reduces this genuine experience into recommendations such as enjoying loneliness or contemplation, and ignoring the consequences.

Paradox of Prevention

The "paradox of prevention", a term coined by Geoffrey Rose (1992), arises when reducing the risk of persons in medium-risk to low-risk groups has a greater impact on the overall risk in the population than only reducing the risk of persons in high-risk groups. The paradox arises from the fact that interventions on persons in these groups will typically offer little or no benefit to those individuals (or they even incur costs), despite the effect on the health of the population. In the 1940s, 600 children had to receive diphtheria vaccination to save only one child's life. In this case, of course, it was worth it, because diphtheria was eradicated. However, this is not always the case. Why should we, who are not infected, limit our lives for the sake of others?

Should I take care not to let anyone infect me with the virus, or I should take care that no one gets infected? This is not the chicken or the egg causality dilemma, but a real existential paradox. Aldrich (https://globalresilience.northeastern.edu/daniel-aldrich-in-the-washington-post-is-social-distancing-the-wrong-term-expert-prefers-physical-distancing-and-the-who-agrees/) has suggested that physical distancing should be used instead of social distancing. This is a really critical and relevant comment. In epidemics, we need social empathy. Words convey their meanings in crises, even though we mean something else by them. Throughout this crisis, we should not forget that "Covid 19 per se is a paradox"(https://www.researchgate.net/publication/340399215_The_Paradox_of_Covid-19).

Conflict of Interests

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Relationship of Early Maladaptive Schemas and Big Five Personality Factors with Impulsivity in Middle-Aged Women

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Quantitative Study

Abstract

Background: Mental health in the middle-age period is vulnerable due to the many biological, physical, psychological, and social changes, and the consequences of these changes. Women experience more changes and complications associated with aging in this phase of life than men. The aim of the present study was to determine the relationship of early maladaptive schemas and Big Five personality factors with impulsivity.

Methods: The present study was a correlational research. The study population consisted of all middle-aged women in regions 1 and 2 of Tehran, Iran. From among them, 150 were selected through randomized cluster sampling. Subjects completed the Big Five Inventory-2 (BFI-2), Dickman's Impulsivity Inventory (DII), and the Young Schema Questionnaire-Revised (YSQ) before and after the intervention. To analyze the data, descriptive statistics (mean and standard deviation) and inferential statistics (the Pearson correlation coefficient and multiple regression) were used in SPSS software.

Results: Correlation analysis indicated that all domains of early maladaptive schema had a significant positive correlation with impulsivity ($P < 0.01$). Impairment limitations (Beta = 0.45; t = 33.8), self-regulation and impaired function (Beta = 0.42; t = 27.44), and disconnection and rejection (Beta = 41.0; t = 25.83) were able to predict 78% of impulse variance ($R2 = 0.78$; $F = 7122.63$; $P < 0.0001$).

Conclusion: The results showed that early maladaptive schemas and Big Five personality factors were significant predictors of impulsivity. Impaired limits, self-regulation and impaired performance, and disconnection and rejection were the strongest predictors of impulsivity.

Keywords: Early maladaptive schemas; Big Five personality; Impulsivity; Middle-aged women

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Introduction

Middle age (45-65 years) is a bridge between youth and old age. Today, this period of life forms the largest part of adult life due to increased life expectancy. This stage of life is the golden and the most fertile period of life (van Dyck, Teychenne, McNaughton, De Bourdeaudhuij, & Salmon, 2015). Middle age can be the peak of human life as long as mental health is maintained and increased during this period. Due to the many biological, physical, psychological, and social changes individuals experience in this period of life, and the consequences of these changes, there are vulnerable to mental health issues (Ayers & Hunter, 2013). Compared to men, women experience more changes and complications as they age. The most critical event for women in middle age is menopause and the loss of fertility. Menopause and middle age have many consequences including decreased libido and sexual satisfaction, high prevalence of sexual dysfunctions, insomnia, increased risk of hypertension, cardiovascular diseases, cancers especially breast cancer, and various chronic and disabling diseases, which severely affect middle-aged women, and create mood and emotional disorders and interpersonal stress, and seriously threaten their mental health (Geeske Peeters, Rainbird, Lorimer, Dobson, Mishra, & Graves, 2017).

One of the issues affecting the quality of life (QOL) of individuals (especially those suffering from personality problems) is impulsivity and the personality traits of these individuals. In daily life, most people show impulsive behaviors. Although it is easy to provide examples of impulsive behaviors, accurately defining the phenomena of impulsivity is extremely difficult because there are many differences in the impulsive or non-impulsive interpretations of a behavior. However, it can be said that impulsivity is a multidimensional concept that includes the inability to delay pleasure due to the desire to obtain immediate rewards and the inability to inhibit current behavior or immediate and predetermined responses. Impulsive behavior can be defined as lack of resistance to immediate gratification, deficiency in motor inhibition, and lack of focus when making decisions. In fact, impulsivity is a vast domain of behaviors, appears in the form of immediate pleasure or reward seeking, can cause a high level of danger, and has significant undesired consequences (Bari & Robbins, 2013). Impulsivity is a response that is mixed with each dimension of the five-factor model (FFM), impulsive extraversion or cognitive processing speed, impulsive neuroticism or inability to inhibit behavior, impulsive or spontaneous emotionality and lack of planning, impulsive aggression or explosive aggression and inability to inhibit anger, impulsive activity or unrest and distraction. Cognitive/emotional functions such as attention, memory, reward processing, and motivation are also involved in impulsivity (Stahl et al., 2014).

Personality has been defined as a dynamic organization of the psychological system within the person that controls his/her compatibility with a changing environment. The mentioned system includes the systems cognitive adaptation, excitement and mood, response inhibition, and social relations. Therefore, personality traits are long-standing patterns of perception, communication, and thinking about oneself and the world as a whole (Josefsson et al., 2013). The 3 main theories regarding personality which are mainly studied and supported are the FFM, alternative five model of personality, and three-factor model (Leutner, Ahmetoglu, Akhtar & Chamorro-Premuzic, 2014). Although the 2 factors of neuroticism and extraversion are the same across all 3 models, there is much disagreement about the remaining factors (Zuckerman & Glicksohn, 2016).

The role of personality traits and early maladaptive schemas in impulsivity were investigated in the current study with the hope that it may help us identify

personality trait components and early maladaptive schemas, and their possible effects on impulsivity. Therefore, the present study was conducted with the aim to investigate the relationship of early maladaptive schemas and the Big Five personality traits with impulsivity in middle-aged women of the first and second districts of Tehran, Iran.

Methods

The present study was a correlational research. The statistical population of this study consisted of all middle-aged women referring to neighborhood houses of districts 1 and 2 of Tehran. The study participants were 150 middle-aged women who were selected using cluster random sampling. As maladaptive schemas and personality traits were investigated in the current study, a suitable sample size of 80 individuals was obtained, and considering the possible loss of samples this number was increased to 150 individuals. For the selection of the participants, first, 3 to 6 neighborhood houses were identified and selected from among all the neighborhood houses in districts 1 and 2. Then, after referring to each neighborhood house and coordinating with neighborhood house authorities, the people present in the neighborhood house were surveyed. The study inclusion criteria were being within the age range of 45-65 years. The exclusion criterion was presenting incomplete information. Before the distribution of the questionnaires, all individuals received written information about the research and participated in the study if they so desired. They were assured that all information would remain confidential and would only be used for research purposes. The participants' names and surnames were not recorded for privacy reasons. The duration of the entire process was 2 months.

The Big Five Inventory-2 (BFI-2) measures the Big Five personality traits (extraversion, agreeableness, openness, conscientiousness, and neuroticism) using short statements. This questionnaire includes 44 short items which are rated on a 5-point scale ranging from strongly disagree to strongly agree (van Dyck et al., 2015; Stahl et al., 2014; Soto & John, 2017). In one study, the Cronbach's alpha coefficients for the subscales of conscientiousness, neuroticism, agreeableness, extraversion, and openness were reported as 0.85, 0.85, 0.84, 0.76, and 0.60, respectively (Gurven, von Rueden, Massenkoff, Kaplan, & Lero, 2013). In the present study, Cronbach's alpha coefficients for neuroticism, extraversion, agreeableness, openness, and conscientiousness were 0.73, 0.69, 0.75, 0.71, and 0.77, respectively.

Dickman's Impulsivity Inventory (DII) is a self-report questionnaire designed to assess both functional and dysfunctional impulsivity. The questionnaire consists of 23 yes-no questions (Gurven et al., 2013). The Cronbach's alpha of the functional impulsivity and dysfunctional impulsivity subscales was reported as 0.83 and 0.86, respectively. The reliability analysis of this scale indicated a good internal correlation between both functional and dysfunctional impulsivity subscales and showed that Cronbach's alpha coefficients of the German version of the functional impulsivity subscale (0.76) and dysfunctional impulsivity subscale (0.84) of this questionnaire were similar to that of the functional impulsivity subscale (0.74) and dysfunctional impulsivity subscale (0.85) of the USA version (Gurven et al., 2013). However, in the USA version of this questionnaire, the correlation coefficient between the two subscales was positive (r = 0.23) (Gurven et al., 2013), but in another study (Estevez, Ozerinjauregi, Herrero-Fernandez, & Jauregui, 2019), these two subscales were independent of each other.

The Young Schema Questionnaire (YSQ) was developed by Young (1994) on the basis of clinical observations to identify early maladaptive schemas and evaluate 15 early maladaptive schemas using 75 items (Waller, Meyer, & Ohanian, 2001). The factor structure and construct validity of this scale were confirmed and Cronbach's alpha of the schemas ranged from 0.69 to 0.83. In the present study, Cronbach's alpha of the measures ranged from 0.62 to 0.90, and internal consistency of the scale was 0.94.

For statistical analysis, the raw data obtained from descriptive and inferential statistical methods were used. Descriptive statistics were used to calculate frequencies, determine central indices, dispersion, and draw charts, and the Pearson correlation coefficient and multiple regressions (inferential statistics) were used to investigate the effect of predictor variables on the criterion variable. In addition, all statistical calculations were performed using SPSS software (version 22, IBM Corporation, Armonk, NY, USA).

Results

The mean (standard deviation) age of the subjects was 54.67 (16.21) years, with an age range of 45-65 years. Among the participants, 55 (40%) individuals were employed and 95 (60%) were unemployed. Those with a bachelor's degree (34.2%) had the highest frequency and those with a master's degree (8.8%) had the least frequency.

Kolmogorov-Smirnov test was used to assess the normality of data distribution. The results indicated that all subscales of early maladaptive schemas, attachment styles, and depression followed the assumption of normality ($P > 0.05$). The study results indicated that all domains of early maladaptive schemas have a positive significant correlation with impulsivity ($P < 0.01$). Increase in the scores of the domains of early maladaptive schemas resulted in an increase in impulsivity scores. This means that individuals with more early maladaptive schemas have higher impulsivity scores. However, among the subscales of the YSQ, the Defectiveness/Shame and Eligibility/Dignity subscales did not have significant relationships with impulsivity ($P > 0.05$). This means that the scores of individuals in the Defectiveness/Shame and Eligibility/Dignity schemas do not have any significant statistical relationship with each other. The variable of openness has negative significant correlation with impulsivity (Two-domain test; $P < 0.01$; $n = 150$; $r = -0.75$). This correlation is large and significant, and the explained variance is 56.2%. Openness has a negative correlation with impulsivity, which means that the higher individuals' openness scores, the lower their impulsivity scores. Furthermore, the two variables of conscientiousness and agreeableness have a significant negative correlation with impulsivity, meaning that the higher the individuals' conscientiousness and agreeableness scores, the lower their impulsivity scores. Moreover, an increase in extraversion and neuroticism scores was found to result in an increase in impulsivity scores.

In order to study the multiple relationships between these variables, multiple linear regression method was used; early maladaptive schemas and Big Five personality traits as predictor variables and impulsivity as outcome variable were entered into the regression equation. The results are presented in tables 1 and 2.

Table 1. Research variables

	Variables	Mean ± SD
Early maladaptive schemas	Disconnection and Rejection domain	22.47 ± 5.41
	Impaired autonomy and performance domain	23.81 ± 3.42
	Impaired limits domain	19.99 ± 2.73
	Other-directedness domain	20.55 ± 3.44
	Over-vigilance and inhibition domain	19.66 ± 3.38
Attachment Styles	Openness	14.12 ± 5.66
	Extraversion	15.47 ± 4.21
	Neuroticism	14.13 ± 3.37
	Conscientiousness	19.47 ± 4.17
	Agreeableness	18.13 ± 3.07
Impulsivity	Functional	15.16 ± 4.66
	Dysfunctional	17.55 ± 4.69

SD: Standard deviation

A tolerance coefficient of less than 0.1 and variance inflation factor of higher than 10 illustrates the linearity of data. Another assumption that was investigated in regression was the assumption of the independence of errors (the difference between the real values and the values predicted by the regression equation). If the assumption of independence of errors is null and errors have correlation with each other, it will not be possible to use multiple linear regression method. The Durbin-Watson test was used to assess the independence of errors and showed the errors to be independent of each other (value range: 1.5-2.5). Tolerance coefficient values were not less than 0.1 and variance inflation factor values were not higher than 10 for each predictor variable. A significance model was obtained using the Enter-method (F = 49.67 and R2 = 0.47); this model justified 47% of the variance (R2 = 0.47).

Table 2. Simultaneous impulsive regression on early maladaptive schemas and Big Five personality traits

Variable	R	R^2	R^2 adj	F	SD	β	t	P	Linear indices Tolerance Coefficient	VIF
Constant	0.058	0.047	0.046	36.22	0.88	-	10.03	0.0001	-	-
Disconnection and rejection domain					0.03	0.31	6.22	0.0001	1	1
Impaired autonomy and performance domain					0.02	0.32	6.61	0.0001	1	1
Impaired limits domain					0.03	0.35	7.20	0.0001	1	1
Other-directedness domain					0.03	0.23	4.61	0.0001	1	1
Over-vigilance and inhibition domain					0.03	0.29	5.86	0.0001	1	1
Openness					0.04	-0.30	-5.94	0.0001	1	1
Extraversion					0.03	0.13	2.12	0.03	1	1
Neuroticism					0.03	0.28	4.79	0.0001	1	1
Conscientiousness					0.03	-0.19	-3.68	0.001	1	1
Agreeableness					0.03	-0.22	-4.11	0.0001	1	1

SD: Standard deviation

Early maladaptive schemas and Big Five personality traits were significant predictors of dysfunctional impulsivity. Moreover, in the stepwise regression model, subscales of early maladaptive schemas and Big Five personality traits as predictor variables and impulsivity as criterion variable were entered into the regression equation. The results showed that impaired limits (Beta = 0.45; t = 33.80), impaired autonomy and performance (Beta = 0.42; t = 27.44), and disconnection and rejection (Beta = 0.41; T = 25.83) were able to predict 78% of the variance in the tendency to quit (R2 = 0.78; F = 7122.63; P < 0.0001). Therefore, the strongest predictors of impulsivity were impaired limits, impaired autonomy and performance, and disconnection and rejection.

Discussion

The present study showed that there is a relationship between early maladaptive schemas and Big Five personality traits. The results indicated that there was a significant relationship between early maladaptive schemas and impulsivity. This finding is in line with that of Zhu, Luo, Cai, He, Lu, and Wu (2016). However, among the subscales of the YSQ, the Defectiveness/Shame and Eligibility/Dignity subscales did not have significant relationships with impulsivity.

The Abandonment/Instability schema causes neuroticism in individuals. These results can be attributed to the experiences that form the schemas of Abandonment/Instability and Vulnerability to Harm or Illness, and the characteristics of individuals with high neuroticism. Distrust of receiving love, and emotional instability and unpredictability are characteristics that underlie the formation of Abandonment/Instability schema (Estevez et al., 2019), which is very similar to the definition of impulsivity. The extreme fear that disaster is near, it can happen at any moment, and one cannot prevent it is one of the characteristics of the Vulnerability to Harm or Illness schema. These experiences can explain why neurotic people have a negative view of themselves and others without regard to external reality. They consider the world to be insecure and lack any safety.

Furthermore, a significant relationship was observed between Mistrust/Abuse, Social Isolation/Alienation, and Self-Sacrifice schemas and impulsivity. These findings indicate that a combination of Mistrust/Abuse, Social Isolation/Alienation, and Self-Sacrifice schemas leads to personality traits aligned with impulsivity. However, caution must be exercised in making this conclusion. Impulsivity refers to previously thoughtless, but desirable and acceptable behaviors. The most common reasons for such behavior include avoiding hurting others, avoiding guilt over selfishness, or staying in touch with those in need. Based on these results, one can ask whether impulsivity can be considered as one of the characteristics of people with a Self-sacrificing schema. In other words, do the characteristics of impulsive people have a different form than the self-sacrifice schema and can one say that the goal of impulsive people is the same as the goal followed by people who have Self-sacrifice schema? However, more research needs to be conducted to better explain the relationship between these two variables. As previous research has shown, there is a complete overlap between the characteristics of individuals with Self-sacrifice schema and those with Mistrust/Abuse and Social Isolation/Alienation schemas. In other words, the presence of a Self-sacrifice schema and absence of Mistrust/Abuse and Social Isolation/Alienation schemas is likely to lead to the formation of traits known as agreement. A person who has Defectiveness/Shame and Failure schemas may come to the conclusion that if they do their duties pretty well, others will ignore their

defects and they will be loved (Leppanen, Vuorenmaa, Lindeman, Tuulari, & Hakko, 2016). Forgiveness, kindness, empathy, and other traits that fall under the impulsivity trait can be a response to the Defectiveness/Shame and Failure schemas in the individual. Sometimes, however, people use the extreme behavioral compensation coping style that is completely at odds with their schemas (Shorey, Stuart, & Anderson, 2013). Therefore, impulsivity can be one of the possible responses of a person to Mistrust/Abuse schema and vice versa.

In addition, results of the present study showed that the variables of openness, conscientiousness, and agreeableness had a significant negative relationship with impulsivity, and extroversion and neuroticism had a positive relationship with impulsivity. Based on the results of the present study, reward dependency appears to be defined as an inherent tendency to respond strongly to rewards and to learn to maintain rewarding behavior, and consequently, to be more resistant to behavioral extinction that is associated with impulsivity. This means that as people's tendency to reward a behavior increases, their impulsivity also increases. It can be explained that as the final behavior of impulsive people is without prior thinking and is acceptable by themselves, they always need to receive external rewards from others to increase self-confidence and self-esteem and to confirm themselves, and they always try to use it to maintain their behavior because others' approval of their behavior is an approval of their behavior desirability (Chakhssi, Bernstein, & de Ruiter, 2014). The extraversion and neuroticism subscales had a significant positive relationship with impulsivity. The reason for this is also quite clear; the behavior of impulsive people is without prior thinking and is acceptable by them, and this is also seen in individuals with psychoticism and extraversion.

An explanation for the obtained finding could be that the theoretical foundations of impulsivity and maladaptive schemas remind us that fundamental schemas can lead to an anomalous lack of foresight (action without prior thinking) and ultimately impulsivity, because it is predicted by the theory of planned behavior that individuals with low self-control (e.g., dysfunctional impulsivity) are less likely to act in accordance with their attitudes. In fact, people with dysfunctional impulsive behaviors engage in behaviors that are not consistent with their attitudes.

One of the limitations of the present study was that this study was conducted on middle-aged women referring to districts 1 and 2 of Tehran, so caution should be taken in generalizing these results to other regions. In the present study, many other variables that influence the formation of personality traits have been overlooked. Schematic processing means that a person with a particular schema processes the received information in a way that results in the schema being verified. In other words, schematic processing leads to distorting, searching, remembering, and recalling schema-compliant information, and more importantly, to ignoring the information incompatible with the schema (Shorey et al., 2013). Therefore, in answering the questionnaire, the schematic processing of a person with a particular schema results in the misinterpretation of questionnaire items. This limitation not only in the present study, but in all studies can lead to false correlation between research variables.

It is recommended that the present study be repeated if possible in the general public, not only among a particular class. It is recommended that more researches with the same subject, but with a larger sample size be conducted and the obtained results be compared. The use of other methods like other scales available in the personality domain is recommended. The present study was conducted using close-ended

questionnaires and it seems that, if other methods like interviews are used to obtain information about the experiences of subjects, richer information will be obtained.

Conclusion

The results of the present study indicated that early maladaptive schemas and Big Five personality traits were significant predictors of dysfunctional impulsivity. Impaired limits, impaired autonomy and performance, and disconnection and rejection schemas were the strongest predictors of impulsivity.

Conflict of Interests

Authors have no conflict of interests.

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The Effectiveness of Self-Compassion Training on Self-Discrepancy, Loneliness, and Post-Divorce Adjustment among Women

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Quantitative Study

Abstract

Background: The objective of the present study was to determine the effectiveness of self-compassion training on self-discrepancy, sense of loneliness, and adaptation after divorce among women.

Methods: The present quasi-experimental study was conducted with a pretest-posttest design and a control group. The statistical population consisted of all divorced women referring to counseling centers in district 2 of Tehran, Iran, between April and June 2019. From among them, 30 individuals were selected through convenience sampling method and randomly divided into experimental and control groups. Data were collected using the Fisher Divorce Adjustment Scale (Fisher, 1976), self-discrepancy questionnaire (Higgins, 1987), and Revised UCLA Loneliness Scale (Russell, Peplau, & Cutrona, 1980) and analyzed using univariate analysis of variance and multivariate analysis of covariance in SPSS software.

Results: The self-compassion-based therapy reduced self-discrepancy and feeling of loneliness, and improved post-divorce adaptation in the experimental group.

Conclusion: It can be concluded that self-compassion-based therapy is effective on self-discrepancy, feeling of loneliness, and adaptation after divorce in women.

Keywords: Self-compassion; Self-discrepancy; Loneliness; Post-divorce adaptation; Women

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Introduction

Divorced women suffer from loneliness and lack of support. Loneliness is an unpleasant individual experience due to beliefs such as one being different from others that is associated with observable behavioral problems such as sadness, anger, and depression, and shows a kind of inconsistency between expectations and aspirations in social relationships. Signs of feeling alone can be behaviors such as avoiding contact with others (Berry, Kowalski, Ferguson, & McHugh, 2010). Researches have linked levels of loneliness to social skills (Boellinghaus, Jones, & Hutton, 2014), social self-efficacy (Brown & Lin, 2012), spiritual well-being, and social distance (Finlay-Jones, Rees, & Kane, 2015).

Moreover, divorced women are at risk of self-discrepancy, leading to less satisfaction with life, increased depression, and other mental illnesses (Gilbert, 2005). Higgins is a renowned theorist in the field of self (ego), and especially self-discrepancy. He divides ego into the 3 categories of the actual self, ideal self, and ought self. The real self consists of traits that a particular person (such as yourself or someone else) believes exists in you. The ideal self encompasses one's wishes and hopes (Higgins, 1999). It can be said that the ideal self encompasses the qualities that a particular person (like yourself or someone else) wants you to have.

The ought self encompasses the consciences and duties that one feels responsible for, including the sense of morality, commitment, and duty. Ought self is the collection of features that a particular person (like yourself or someone else) believes should be in you. The ideal self and free-standing self are considered as the guides of a person. Self-discrepancy and the differences between the real self and ideal self determine one's sensitivity to negative emotional states (Hoffart, Oktedalen, & Langkaas, 2015).

The discrepancy between the real and ideal self causes depression, sadness, and anxiety. However, less discrepancy between the ideal and real self will provide better mental health (Lalifaz, & Askari, 2008). The extent of the discrepancy between the 3 levels of self (actual, ideal, and ought) depends on several factors, such as individual, family, and social factors (Neff, 2003).

There are many ways to improve self-discrepancy, loneliness, and adaptation after divorce. One of these solutions is self-compassion. Compassion focused therapy is based on a neurodevelopmental approach to mental health problems (Neff, 2009) and focuses on the areas of past experiences, underlying fears, and unintended and unpredicted consequences (Gilbert, 2005).

Compassion is a skill that can be taught to an individual, and then, influenced by that person's training, nervous system, and immune system. The treatment is enforced by creating or enhancing a client's internal, compassionate relationship with him/herself, rather than blaming and condemning the client, or giving rise to self-criticism. The results of this treatment include well-being, understanding, and empathy, lack of judgment and blame, tolerance or resilience, confusion, and suffering, thorough attention, thinking, behavior, imagery, emotion, and passion (Newsome, Waldo, & Gruszka, 2012).

The efficacy of this treatment has been studied in some randomized controlled trials. Its effects on negative emotions, pessimistic thoughts, and self-esteem (Sharrock, 2016), reduced stress and increased relaxation (Trompetter, de Kleine, & Bohlmeijer, 2017), depression treatment (Vahedi, Fathabadi, & Akbari, 2011), improvement of self-criticism and self-destructive thoughts, reduced common symptoms and signs of anxiety, stress, and depression (Williams, 2016), and

promotion of the emotional healing of patients (Williams, Dalgleish, Karl, & Kuyken, 2014) have been shown in different groups. Nevertheless, no study has examined the efficacy of this treatment modality in people with diabetes. In line with these findings and that of research conducted in the field of self-compassion, a study found that students who received compassion focused therapy had higher hope, self-esteem, mental health, resilience, and positive emotions than their peers after a 2-month follow-up (Arch, Brown, Dean, Landy, Brown, & Laudenslager, 2014).

Given the increasing number of divorced women and their major problems in the field of self-discrepancy, feeling alone, and adaptation after divorce, it seems that many of these women do not seem to have sufficient knowledge and skills to efficiently manage these problems. The purpose of the present study was to determine the effectiveness of self-compassion training on self-discrepancy, loneliness, and adaptation in women after divorce.

Methods

The present quasi-experimental study was conducted with a pretest-posttest design and control group. The statistical population consisted of all divorced women referring to counseling centers in district 2 of Tehran, Iran, between April and June 2019. Due to the nature of the study population, the convenience sampling method was used to select the sample. The minimum number of samples was calculated based on test power of 0.8, the significance level of 0.05, the robustness of the relationship between independent and dependent variables, and achieving the desired power of 15 individuals in each group.

To implement the study, first, the list of counseling centers in district 2 of Tehran was obtained, and then, 6 centers were randomly selected and 30 individuals referring to the centers were selected randomly and divided into experimental (self-compassion treatment) and control groups (each comprising 15 individuals). The participants had to have at least a high school diploma and be capable of attending meetings. Participants who volunteered to participate in the study were asked to complete the questionnaires. Prior to administering the questionnaires, information was provided to the individuals on the subject of the research and they were assured that all information would remain confidential and would only be used for research purposes. The procedure was individualized and the whole process took 2 months.

The study inclusion criteria included the passage of at least 1 year since the divorce. The exclusion criteria were incomplete and invalid information. The ethical considerations of the present study were as follows: all individuals received written information about the research and were willing to participate in the research. They were assured that all information would remain confidential and be used for research purposes. The participants' names and surnames were not recorded for privacy reasons.

Fisher Divorce Adjustment Scale: The Fisher Divorce Adjustment Scale (FADS) was created by Fischer in 1976, and has been revised several times (Kelly & Carter, 2015). This scale consists of 100 questions that are scored based on a Likert scale ranging from 1 to 5 (1 = always and 5 = never). High scores indicate poor divorce adjustment, and low scores indicate high divorce adjustment. This scale consists of the 6 subscales of self-esteem, emancipation, anger, grief, social trust, and social self-esteem (Germer & Neff, 2013). The creators of this scale reported a reliability of 0.98 for the overall score and 0.87-0.95 for its subscales using Cronbach's alpha (Kelly & Carter, 2015). They used the 28-item General Health Questionnaire (GHQ-28) and the Rosenberg Self-Esteem Scale (RSES) to determine the validity of this scale.

Correlation coefficients of the subscales of FADS were in the range of 0.79-0.83 with the GHQ-28 and 0.88-0.89 with the RSES, indicating the validity of the FADS (Germer& Neff, 2013). Moreover, Cronbach's alpha for the total score of the scale was 0.82 and the reliability of the subscales was within the range of 0.51-0.90.

The Self-Discrepancy Questionnaire (Higgins,1987), has been constructed based on Higgins' Theory of Self-Discrepancy (1987). This scale consists of 39 items, 13 items in each of its subscales Newsome et al., 2012). The Cronbach's alpha coefficient for the whole questionnaire, the ideal self, and ought self was 0.79, 0.48, and 0.67 , respectively. Test-retest reliability was 0.65 for the whole questionnaire and 0.65, 0.63, and 0.58 for the actual, ideal, and ought self, respectively (Albertson, Neff, & Dill-Shackleford, 2015). The reliability of the whole questionnaire was calculated as 0.69 using Cronbach's alpha and 0.76, 0.71, and 0.63 for the subscales of actual, ideal, and ought self, respectively.

Table 1. Content of the compassion training program sessions

Session	The content of the sessions
1st session	Initial communication with people, an overview of meeting structure, self-directed awareness using physical examination (partial awareness), self-directed awareness, and homework
2nd session	The participants were taught 5 knowledge-building skills to define indifference toward situations, what to do when we are feeling indifferent toward a situation, and what others do when they feel indifferent. The participants were asked to explain how they feel when they are indifferent and when others are indifferent to them. Whether we need to be indifferent or not, and the conditions toward which we should be indifferent were also discussed.
3rd session	The exercise of the previous session, which was about understanding the relationship between thoughts, feelings, and events, was reviewed. After that, empathy was defined for the participants. What we do when we sympathize and how others sympathize with us, whether we need to sympathize or not, and under which circumstances we should sympathize were also addressed. Finally, the homework was explained.
4th session	The homework and content of the previous sessions were reviewed. The participants were taught breathing exercises as a means of meditation. The definition of empathy, what we do when we empathize and what others do when we sympathize, how we feel when we sympathize, how we feel when others sympathize with us, whether we need to empathize, under which circumstances we should empathize, the difference between apathy, and empathy where discussed. At the end of the session, sitting meditation, presence of mind and focus on the breathing and body (consciousness exercise), was performed.
5th and 6th sessions	The skills required for empathy were explained. The definitions of interpretive errors and dehumanization in relationships were provided. Then, the participants were asked to name two of their interpretive and humanizing errors and their friends. The necessity of learning empathy, how lacking skills and interpretations affect our relationships with others, and what skills one needs to prevent wrong interpretations were explained. Moreover, acceptance without judgment and identification of negative self-talk were also explained.
7th session	Interpretive errors were defined. Then, the participants were asked to name each of their interpretive errors and those of their friends. The role these errors play in relationships were explained. Finally, training was provided on cognitive distortions, consequences, and coping strategies.
8th and 9th sessions	On these sessions, safety strategies and domineering behaviors and their relationship with self-criticism (challenging the patient through Socratic dialogue) were discussed and assignments were given.
10th to 12th sessions	On these sessions, people were asked to talk about self-attack along with attentiveness, thoughtfulness, compassionate behavior, and practicing respect, and were taught how to create compassionate images through the necessary meditation. After 1 week, posttest was conducted in both groups.

Revised UCLA Loneliness Scale: The revised UCLA Loneliness Scale (UCLA-R) was developed by Russell, Peplau, and Cutrona (1980). The UCLA-R consists of 20 items and the total score is the sum of the score of the 20 items. This index contains descriptive terms that are scored on a 4-point Likert scale (0 = never, 1 = rarely, 2 = sometimes, 3 = often); items 1, 4, 5, 6, 9, 10, 15, 16, 19, and 20 are reverse scores.

The reliability of the scale was reported to be 0.84 and 0.87 with Cronbach's alpha and test-retest reliability, respectively (Birnie, Speca, & Carlson, 2010). Moreover, in the present study, the validity of the UCLA-R was calculated through correlation with social anxiety, which was 0.34, indicating the acceptable validity of the questionnaire.

Table 1 shows the content of the Compassion Training Program sessions (Werner, Jazaieri, Goldin, Ziv, Heimberg, & Gross, 2012).

Descriptive statistics such as frequency calculation, percentage, mean, and standard deviation and inferential statistical methods including univariate analysis of variance (ANOVA) and multivariate analysis of covariance (MANCOVA) were used for data analysis. SPSS software (version 22; IBM Corporation, Armonk, NY, USA) was used for data analysis.

Results

In this study, 30 participants were divided into experimental and control groups (15 in each group). The mean ± SD of age in the experimental group was 35.73 ± 7.06 and in the control group was 36.47 ± 9.74. There was no significant difference between the two groups in terms of mean age ($t = 28$; $P < 0.05$). In the experimental group, 13 individuals were undergraduates, 1 was a postgraduate, and 1 did not report his/her education.

In the control group, all subjects had a Bachelor of Science. In terms of occupational status, 6 participants were housewives, and 9 were employed in the experimental group. In the control group, 5 participants were housewives, and 10 were employed. Mean and standard deviation for scores of research variables in pretest and posttest is shown in table 2.

Table 2. The mean and standard deviation of scores of research variables in pretest and posttest

Variables		Group	Pretest	Posttest
			Mean ± SD	Mean ± SD
Self-Discrepancy	Actual self	Experimental	27.90 ± 5.47	33.50 ± 4.93
		Control	27.50 ± 4.93	27.05 ± 4.51
	Ideal self	Experimental	38.80 ± 4.93	24.80 ± 4.60
		Control	38.20 ± 3.07	37.95 ± 3.42
	Ought self	Experimental	36.30 ± 3.48	32.90 ± 3.52
		Control	37.25 ± 2.95	37.30 ± 3.52
	Self-Discrepancy total score	Experimental	99.95 ± 12.00	85.65 ± 12.31
		Control	98.80 ± 11.86	97.40 ± 12.84
Adaptation after divorce		Experimental	189.70 ± 20.50	171.20 ± 19.72
		Control	187.15 ± 12.93	186.50 ± 14.60
Feeling alone		Experimental	55.85 ± 11.35	47.70 ± 11.83
		Control	56.80 ± 8.85	56.10 ± 9.35

SD: Standard deviation

Table 3. Results of multivariate analysis of covariance on mean posttest scores of self-discrepancy, loneliness, and adaptation after divorce in the experimental and control groups

Test name	Level	df hypothesis	df error	F	P-value	Eta squared	Statistical power
Pillai's Trace	0.35	6	23	14.40	0.0001	0.32	1.00
Wilks' Lambda	0.19	6	23	14.40	0.0001	0.32	1.00
Hotelling's Trace	4.03	6	23	14.40	0.0001	0.32	1.00
Roy's Largest Root	4.03	6	23	14.40	0.0001	0.32	1.00

df: Degrees of freedom

The normality of the distribution of scores in the pretest in both experimental and control groups was confirmed by the Kolmogorov-Smirnov test. Moreover, since the F-value of interaction for the regression line slope was the same for all the variables in the study, the homogeneity of the slope of the regression line was confirmed. MANCOVA was used to examine the differences between the experimental and control groups regarding self-discrepancy, loneliness, and adjustment after divorce.

The results presented in table 3 indicate that there are significant differences between the experimental and control groups in at least one of the dependent variables ($P < 0.0001$; $F = 1414.40$). Therefore, the main hypothesis was confirmed. To determine which variables differed between the groups, 6 one-way covariance analyses were performed in the MANCOVA text the results of which are presented in table 4. The effect or difference was 0.32, i.e, 32% of the individual differences in posttest scores of self-discrepancy, loneliness, and adjustment after divorce were related to the effectiveness of self-compassion therapy (group membership).

By controlling the pretest between the experimental group and the control group in terms of their actual self ($P < 0.0001$; $F = 82.13$), ideal self ($P < 0.0001$; $F = 34.34$), ought self ($P < 0.0001$; $F = 2473.24$), and self-discrepancy ($P < 0.0001$; $F = 7584.75$), there was a significant difference in adjustment after divorce ($P < 0.0001$; $F = 6734.67$) and feeling alone ($P < 0.0001$; $F = 44.20$) (Table 4).

Table 4. Results of one-way covariance analysis in the multivariate analysis of covariance text on mean posttest scores of self-discrepancy, loneliness, and divorce adjustment

Variable	Source of changes	SS	df	MS	F	P	Eta squared	Statistical power
Actual self	Pretest	628.38	1	628.38	159.77	0.0001	0.87	1.00
	Group	323.03	1	323.03	82.13	0.0001	0.68	1.00
	Error	145.52	27	3.93				
Ideal self	Pretest	497.76	1	495.76	92.18	0.0001	0.71	1.00
	Group	186.75	1	186.75	34.72	0.0001	0.48	1.00
	Error	198.98	27	5.37				
Ought self	Pretest	500.58	1	500.58	160.06	0.0001	0.81	1.00
	Group	299.05	1	299.05	73.24	0.0001	0.66	1.00
	Error	198.98	27	3.12				
Self discrepancy	Pretest	4438.48	1	4438.48	168.66	0.0001	0.82	1.00
	Group	2230.37	1	2230.37	84.75	0.0001	0.69	1.00
	Error	973.66	27	26.31				
Adaptation after divorce	Pretest	3532.75	1	753532	322.74	0.0001	0.89	1.00
	Group	379.52	1	379.52	34.67	0.0001	0.48	1.00
	Error	404.99	27	10.94				
Feeling alone	Pretest	8874.10	1	8874.01	127.74	0.0001	0.77	1.00
	Group	3070.36	1	307.36	44.20	0.0001	0.54	1.00
	Error	2570.18	27	69.46				

df: Degrees of freedom; SS: Sums of squares; MS: Mean squares

According to Neff's (Kemper, Mo, & Khayat, 2015) definition, this variable consists of the 3 components of kindness to the self versus judgment of the self, the feeling of human communion in isolation, and vigilance in contrast to excess of replication (Zessin, Dickhauser, & Garbade, 2015). This treatment cultivates self-acceptance, increases women's adaptability to problems, and provides women with the ability to successfully adapt to post-divorce conditions. It also improves self-discrepancy, which makes these women feel lonely. It can be said that self-compassion training can lead to a good mindset. It gives individuals an understanding of their irrational thoughts. It empowers them to cope with the challenges ahead, overcome hardships, and move on with life, or in other words, increases adjustment after divorce. Education can be a source of change, including changes in attitudes and beliefs, this, in turn, increases compatibility. Compassion-based education helps individuals to understand their irrational and irrational evaluations, and thus, to reform and enjoy their social relationships, work, and leisure activities. This reduces stress and increases adaptability. The nature of group training itself can have a positive effect on increasing adaptability. Gathering in a group with people who have similar problems is effective in reducing stress and negative moods, thereby increasing the acceptance of reality and the ability to cope with it. Therefore, self-compassionate training can lead to successful adaptation to adverse conditions.

Compassion for oneself helps the person in transition with his or her mental strain to improve as he or she experiences suffering. Acknowledging that all human beings are defective, they fail, make mistakes, and may engage in unhealthy behaviors is the other element of compassion for oneself. Compassion for oneself links the experiences of individual failure to the common human experience, as each person's characteristics appear in a broad and universal perspective. Human judgments and struggles also become shared human experiences, so that when one experiences suffering, he feels that he is attached to others. However, often when people think about their shortcomings, they feel isolated from others, in the sense that they feel that their failure was an error that the rest of humanity has no share in. Human judgments and struggles also turn into shared human experiences, so that when one experiences suffering, one feels attached to others, but often when people think of their shortcomings, they feel isolated. Furthermore, when people experience difficult situations in life, they often fall into the trap of thinking that they are the only ones struggling with feelings of isolation and separation from others who continue their happy and normal lives. The third component of compassion for oneself is conscious attention to what is happening in the present moment, in a clear and balanced way. As such, one should not ignore or rummage aspects of one's personality or life that one does not like (Zessin, Dickhauser, & Garbade, 2015). Self-compassion includes caring for and having compassion for oneself and lack of self-evaluating attitudes in the face of perceived difficulties or failures (Marshall, Parker, Ciarrochi, Sahdra, Jackson, & Heaven, 2015). High self-compassion reduces feelings of loneliness and protects individuals from stress (Friis, Johnson, Cutfield, & Consedine, 2016) as a result of acceptance of emotional vulnerability, caring for oneself, non-evaluative attitudes toward one’s failures (Held & Owens, 2015; Neff & Davidson, 2016). Self-compassionate treatment reveals limitations and unhealthy behaviors, and thus, enables the individual to move forward and implement change to promote adaptation (Raque-Bogdan, Ericson, Jackson, Mrtin, & Bryan, 2011). Therefore, one can expect that self-discipline-based therapy can have an impact on women's self-discrepancy, loneliness, and adaptation after divorce.

The present study had some limitations. In this study, only questionnaires were used for data collection; therefore, biased information may have been obtained, as some participants may have answered some questions in a way to better represent themselves. The limitation of the study population to Tehran prevents the generalization of the results to other cities. Researchers can use other methods such as interviewing to obtain accurate information. It is recommended that counseling and mental health professionals use compassion-based treatment to improve self-discrepancy, loneliness, and adaptation after divorce. It is suggested that similar research be carried out in other cities so that their results can be compared to the present results. In future research, the use of other methods such as observation and interviewing, in addition to questionnaires, is suggested. Given that compassion-based treatment is a valuable approach, it can be used to improve self-discrepancy, loneliness, and adjustment after divorce and other aspects of life, such as psychological well-being.

It is suggested that self-compassion therapy workshops be held so that mothers can acquire the necessary skills to improve their psychosocial abilities, resolve any issues, and increase their post-divorce adjustment abilities.

Conclusion

None.

Conflict of Interests

Authors have no conflict of interests.

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None

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The Association between Stress and Illness Anxiety during the Corona-Virus Outbreak in China in 2019

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Quantitative Study

Abstract

Background: The Corona-virus (COVID-19) outbreak in China in 2019 can cause psychological traumatic reaction; it can be a risk factor for illness anxiety. The predictors of severe illness anxiety have not yet been explored.

Methods: The present research was a cross-sectional study. The Impact of Event Scale-Revised (IES-R) was used to evaluate stress reaction, and Whiteley Index-7 (WI-7) was applied to measure illness anxiety. Participants with scores above the median WI-7 score were categorized as severe illness anxiety and those with scores lower than the median WI-7 score were categorized as non-severe illness anxiety. Logistic regression was used to calculate the odds ratio (OR) and 95% confidence interval (CI). Stress level was divided into mild, moderate, and severe, which were included in the logistic model to estimate the association of stress and illness anxiety.

Results: After adjusting for covariates, the OR of mild, moderate, and severe stress reaction level was 3.32 (95% CI: 2.21, 4.99), 6.01 (95% CI: 2.99, 12.05), and 14.54 (95% CI: 7.99, 26.47), respectively. The P for trend was less than 0.001 across the levels of stress reaction.

Conclusion: Severe stress reaction has been associated with severe illness anxiety during the outbreak of COVID-19 in China. The corona crisis intensifies the experience of personal stress that in turn increases the fear of the COVID-19 illness in China. Further qualitative and follow-up studies are essential to illustrate the development of illness anxiety.

Keywords: Stress; Anxiety; COVID-19 outbreak

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Introduction

The Corona-virus pandemic (COVID-19) can cause psychological trauma among the population living in the epidemic district (Vyner, 1988). Studies have showed a high stress level in both the general population and medical staff during the outbreak of COVID-19 in China (Huang, Han, Luo, Ren, & Zhou, 2020). The reactions to crisis vary greatly and are shaped by individuals' cultural background and life experience. In the Chinese culture, there is a tendency for somatic compliance when encountering stress (Kirmayer & Young, 1998). Higher number of reported somatic symptoms can contribute to illness anxiety, which is characterized by a preoccupation with the notion that one is physically ill (Neng & Weck, 2015).

Previous studies have proven that psychological stress is a risk factor for illness anxiety (Bennett, Patterson, & Noble, 2016). An invisible virus can cause a traumatic experience, uncertainty of health, and irrational beliefs about health. Exposure to COVID-19 can be a trigger for illness anxiety, and illness anxiety can be developed and maintained by absorbing threatening information through social media or hearing about relatives infected with COVID-19 (Rachman, 2012).

Excessive illness anxiety is a risk factor for the overuse of medical resources. However, those who experience excessive illness anxiety may avoid medical resources due to their fear of medical facilities. This avoidance and the resulting pressure they feel may result in them committing suicide (Bobevski, Clarke, & Meadows, 2016). Everyone can experience illness anxiety to some degree, and mild illness anxiety can promote constructive health behavior and adherence to medical advice (Asmundson & Taylor, 2020). People who experience a high level of illness anxiety often visit hospitals more frequently, and thus, overuse the limited medical resources. Nevertheless, previous studies have mainly explored the risk factors of presence of illness anxiety, and have not focused on severe forms of illness anxiety (Bennett et al., 2016; Reuman, Jacoby, Blakey, Riemann, Leonard, & Abramowitz, 2017).

The aim of the present study was to assess a predictor of severe illness anxiety. We assumed that stress reaction can predict the severity of illness anxiety and a high level of stress reaction indicates sever illness anxiety.

Methods

Participants: We designed a cross-sectional study and obtained Institutional Review Board approval before the study. An electronic questionnaire was designed and sent to the participants by We-Chat during 5th to 12th March. An electronic informed consent was obtained from each participant. The study inclusive criteria were being 18-70 years of age, understanding the content of the questionnaire, and living in China during the COVID-19 pandemic. The study exclusive criterion was being infected with COVID-19.

Instruments

Demographic information: We collected data on basic demographic characteristics including sex, age, occupation, education level, and marital status. We designed COVID-19 related questions to collect data on stressful events. The questions were related to whether the respondents are medical staff, are working on the frontline against COVID-19, have close relatives working on the frontline, and have close relatives infected by the virus. A positive (yes) response to any one of the above questions was defined as experiencing stressful events.

Stress levels: The Impact of Event Scale-Revised (IES-R) was used to measure the level of stress reaction. The IES-R includes 22 items, and each item is rated on a 5-point scale ranging between 0 (Not at all) and 4 (Extremely). The IES-R has been

translated into many languages including Chinese, and the reliability and validity of the Chinese version of the IES-R have been approved (Wu & Chan, 2003). The total score of the scale represents the degree of stress; 4 categories were applied in our analysis including 0–23 (normal), 24–32 (mild psychological impact), 33–36 (moderate psychological impact), and > 37 (severe psychological impact) (Creamer, Bell, & Failla, 2003; Motlagh, 2010).

Illness anxiety: Whiteley Index-7 (WI-7) was used to evaluate the degree of illness anxiety (Tu et al, 2016). We used a 5-point Likert scale version of the WI which comprised 7 items (Welch, Carleton, & Asmundson, 2009). The total score of WI-7 represents the severity of illness anxiety. The WI-7 was used as a screening tool of illness anxiety diagnosis of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5). However, the cut-off score was not determined to identify a severe illness anxiety state; the median of the total WI-7 score was used as a cut-off of severe illness anxiety in our sample.

Statistical analysis: The study participants were divided into two groups according to the total WI-7 score. A WI-7 score of above median was defined as severe illness anxiety, and a score lower than median was defined as non-severe illness anxiety. Medians (maximum and minimum) and percentages are used in the present text to present anomalous distribution of variables and categorical variables, respectively. Independent sample t-test, chi-square test, and Mann-Whitney U test were used in univariate analysis between the two groups. Multiple logistic regression was used to calculate odds ratio (OR) and 95% confidence interval (95% CI). Variables with a P value < 0.2 in univariate analysis were included in the multivariate analysis. Stress level was divided into the 3 categories of mild, moderate, and severe, which were included in the logistic model to estimate the association of stress and illness anxiety. IES-R degree was included in the model as categorical variable and the median of each category was included in the model to estimate the P for trend. All statistical analyses were performed in SPSS software (version 25.0, IBM Corp., Armonk, NY, USA). All P values < 0.05 were considered as statistically significant.

Results

We received 727 responses, 1 was a repeated questionnaire. Among the respondents, 10 lived abroad and 1 was under 18 years of age. Thus, 715 validated questionnaires from 30 provinces and districts were included in the analysis. In addition, 240 (33.6%) out of the 715 subjects were medical staff.

The median score of WI-7 was 11.0 (8.0, 15.0). Moreover, 338 (47.3%) participants were categorized as severe illness anxiety and 377 (52.7%) of them were categorized as non-severe illness anxiety. The results of univariate analysis are presented in table 1.

Table 1. Demographic characteristics of low illness anxiety and severe illness anxiety groups

Variable		WI-7 ≤ 11 (378)	WI-7 > 11 (338)	χ^2, t, or z	P-value
Sex					
Male (%)		162 (42.9)	136 (40.4)	0.458[a]	0.498
Age (years)		33.79 ± 9.26	33.21 ± 9.28	0.828[b]	0.408
Education Levels (%)	Senior high school or below	38 (11.0)	38 (11.3)	2.910[a]	0.233
	College	142 (37.6)	144 (42.7)		
	Postgraduate or above	198 (52.4)	155 (46.0)		
Marital status (%)	Single	148 (39.2)	146 (43.3)	1.550[a]	0.461
	Married	206 (54.5)	168 (49.9)		
	Other	24 (6.3)	23 (6.8)		
Medical personnel yes (%)		138 (36.5)	102 (30.3)	3.112[a]	0.078
Stressful events yes (%)		53 (14.0)	47 (13.9)	0.001[a]	0.977
Impact of Event Scale-Revised		11.0 (2.0, 22.0)	27.0 (18.0, 38.0)	-13.012[c]	< 0.001

[a]Chi-square test, [b]Independent sample t-test, [c]Mann-Whitney U test

The two groups did not significantly differ in terms of sex, age, education, marital status, number of medical personnel (138 vs 102 individuals), and stressful events. A significant difference was observed in IES-R score between the two groups ($P < 0.05$).

Table 2 shows the models of IES-R and illness anxiety; the two models are similar. After adjusting for covariates, the OR of mild, moderate, and severe stress reaction level was 3.32 (95% CI: 2.21, 4.99), 6.01 (95% CI: 2.99, 12.05), and 14.54 (95% CI: 7.99, 26.47), respectively. In addition, the P for trend was less than 0.001 across the levels of stress reaction.

Discussion

We found that stress level was associated with illness anxiety severity. The risk of severe stress reaction is 14.54 times that of severe illness anxiety compared with normal stress level.

People experienced crisis both physically and mentally, and the reaction was individualized. Previous studies found that subjective stress accounted for illness anxiety rather than the event itself (Noyes et al., 2004). In patients with obsessive compulsive disorder (OCD), the tendency to overestimate threat was associated with illness anxiety (Reuman et al., 2017). Though these studies did not focus on severe illness anxiety, the findings were similar to that of the present study. The shared feature of stress reaction and illness anxiety was excessive Olatunji, Deacon, & Abramowitz, 2009). There is an overlap between stress reaction and anxiety. Both stress reaction and anxiety have psychological and physiological hyperarousal symptoms. Moreover, illness anxiety was highly correlated with anxiety disorder. During the current COVID-19 crisis, people do not feel safe. Physiological reactions and somatic symptoms caused by stress can be catastrophic and cause illness, and people will feel that the safety of their body is threatened. Therefore, illness anxiety was associated with misinterpretations of hyperarousal of body sensations as signs of illness (Scarella, Laferton, Ahern, Fallon, & Barsky, 2016). The COVID-19 crisis can involve both physiological and psychological reactions, and illness anxiety can combine the two as a reaction to crisis (Lorenzi, Hardoy, & Cabras, 2000).

The neural mechanism associated with stress reaction and illness anxiety was the overactivation of the amygdala and hypothalamic-pituitary-adrenal (HPA) axis. Assessment of functional magnetic resonance imaging (fMRI) found hyperactivation in the bilateral amygdala in patients with illness anxiety compared to healthy controls (Yan, Witthoft, Bailer, Diener, & Mier, 2019). Overactivation of the amygdala was observed with the incidence of acute stress (Fitzgerald, DiGangi, & Phan, 2018). Stress reaction also activated the HPA axis (Seo, Rabinowitz, Douglas, & Sinha, 2019).

Table 2. Logistic regressions of stress reaction levels and illness anxiety severity

Model[a]	Severe illness anxiety (yes/no)[b]	OR	95% CI	Wald	P-value
Impact of Event Scale-Revised degree/median					
Normal/10	136/436	1		108.85	
Mild/27	77/129	3.32	2.21, 4.99	33.30	< 0.001
Moderate/34	32/44	6.00	2.99, 12.05	25.47	< 0.001
Sever/43	92/106	14.54	7.99, 26.47	76.77	< 0.001
Medical personnel	102/240	0.72	0.51, 1.02	3.50	0.061
P for trend		1.08	1.07, 1.09	112.69	< 0.001

[a]: The model included degree of stress reaction and medical personnel as independent variables, and sever illness anxiety as dependent variable. The P-value for trend was calculated using logistic regression including the median of each stress level. $R^2 = 0.242$

[b]: Severe illness anxiety was defined as WI-7 > 11.

Impaired cortisol secretion was found in patients with somatoform disorder including those with hypochondriasis (Rief & Auer, 2000). There were common mechanisms for stress reaction and illness anxiety. Thus, future studies can explore the mechanism of stress reaction and illness anxiety.

The present study had some limitations. We used a median score of WI-7 as cut-off of severe illness anxiety because there was no specific cut-off of WI-7 corresponding with severe illness anxiety in the DSM-5. The cross-sectional design of the study could not establish causality. The R^2 of the regression model was small and other variables associated with illness anxiety need to be investigated. Future qualitative studies are essential to further explore the cultural background effect. Moreover, a follow-up study is needed to illustrate the development of illness anxiety after stress.

We found a relationship between stress reaction and severe illness anxiety during the COVID-19 outbreak in China; this study provides information about illness anxiety in the general population. Illness anxiety is always discussed in the background of psychosomatic settings. The COVID-19 psychological crisis is associated with illness anxiety, and the psychosomatic view can offer a management method such as ensure the safety of the body in order to cope with the crisis. The interplay of stress and illness anxiety should always be considered as part of a psychosomatic illness. The psychological aspects of COVID-19 correlate closely with illness anxiety. Therefore, it makes sense to use psychosomatic concepts of understanding and treatment in this regard.

Conclusion

A high level of stress reaction is associated with severe illness anxiety during the outbreak of COVID-19 in China. The corona crisis intensifies the experience of personal stress that in turn increases the fear of the COVID-19 illness in China. Further qualitative and follow-up studies are essential to illustrate the development of illness anxiety.

Conflict of Interests

Authors have no conflict of interests.

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Medical Humanities Meets Corona Virus Pandemic: A Report of the Webinar on the Dialogue between Medicine and Humanities

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Introduction

The Institute for Humanities and Cultural Studies (IHCS), Tehran, Iran, recently arranged a webinar on 8th of May 2020 entitled the "dialogue between medicine and humanities on corona pandemic". This webinar was part of the ongoing activities entitled the "cultural and social aspects of corona epidemic in Iran" in which a large number of scholars were invited to reflect on the social and cultural aspects of the corona pandemic. The speakers of this session included Hamidreza Namazi and Alireza Monajemi. The webinar consisted of two separate lectures and a debate. The following articles report the main results of this meeting.

Medical Humanities is always a major contributor

The occurrence of the corona pandemic led to a fundamental change in the current conception (Not only among the health care team but the whole society) of medicine as merely communication between physician and patient. The cultural, social, political, historical, and philosophical issues involved in health and disease were dramatically highlighted and brought to the forefront. These were issues that had either not been taken seriously before or had been considered as luxurious. However, due to the lack of a medical humanities framework, health systems [e.g., both the World Health Organization (WHO) and national health system], which are obsessively concerned with statistics and numbers, have considered these cultural and social factors to be merely obstacles to interventions.

Medical Humanities is a field of research, education, and practice that examines health and medical issues from the perspective of medical philosophy, medical ethics,

medical hermeneutics, medical sociology, medical history, medical education, literature and medicine, and so on. Medical humanities, while trying to neutralize and overcome the reductive and dehumanizing approach of biomedicine, has attempted to improve and enrich clinical practice, patient care, and public health.

Medical Humanities should not be reduced to ethical or managerial issues

When dealing with social, cultural, and political issues, and other complex issues, health systems have almost always reduced them to ethical or managerial issues as evidenced by frequently used phrases such as resource allocation, priority-setting, and ethical judgments in the guidelines of the WHO and other health systems. By defining medicine as a science, we run both the risk of reducing all concerns to merely ethical or managerial issues and the risk of neutralizing humanistic concerns (Monajemi, 2019). This naive and simplistic mode of framing problems leads to serious decision fatigue among the healthcare team. We are not trying to undermine the value of these efforts, but are attempting to show that in order to solve these problems we have to see the big picture.

As medicine is always restless and feels the urgency to do something by inclination, any critical reflections or theoretical researches have been marginalized with the accusation that they are impractical. However, the history of medical humanities has shown that this claim is false.

Medical Humanities should be integrative and Critical

The dominant trend is to treat medical humanities as a clichéd and additive approach. Many of these issues, such as redefining health and disease, philosophy of epidemiology and bio-statistical evidence, health anxiety, isolation and prevention paradoxes, existential concerns, ethics of justice or ethics of care in critically ill patients, compassion fatigue, decision fatigue , and health nihilism cannot be addressed in additive medical humanities.

It seems that the additive view to medical humanities in which medicine is modified by implementing humanities in medical school curricula is an undesirable conception and has very a limited view as current understandings of health and medicine has fundamentally remained unchanged. However, according to the integrative view, the status, goals, methods, and procedures of medicine should be examined critically and reshaped by medical humanities (Evans & Greaves, 1999). In other words, an integrative approach criticizes fundamentally to refocus medicine both at the level of its understanding (e.g., ethical) and its practice (e.g., professionalism) (Namazi, 2018). Nevertheless, the diversity in the disciplines of the field of medical humanities poses the risk of deviation from its original goals and objectives. William Stempsey proposed that the philosophy of medicine give an integrated account or be an integrating force for these endeavors in metamedicine (Stempsey, 2007). Proliferation of disciplines, and consequently, the force of specialization ultimately lead to the loss of the big picture. We are suggesting communication in the context of integrative medical humanities (i.e., metamedicine).

The health lag

The term health lag refers to the failure of the advancement in health to keep up with that in medicine. In other words, health issues in most situations fall behind the medicine that leads to or causes social/cultural/economic problems. Health lag occurs because there is an unequal and undivided attention to health issues in contrast to medical issues that demonstrate themselves at theoretical, practical, and institutional levels and cause a gap between material and non-material culture.

The health lag is basically due to the enigmatic nature of health. Health conceals

itself from notice and simply "sustains its own proper balance and proportion" (Gadamer, 1996). Whenever health becomes an object of positive sciences, inevitably it converts or transforms to "normality" that is straightforwardly defined in statistics (Foucault, 1963). This is why public health, in contrast to individual health, is more objective and based on the concept of population and epidemiology. Replacing the concept of health with normality has caused health anxiety. This is due to the fact that in the age of technoscience, mobilizing public opinion, changing policies and attitudes, and allocating research funding requires scientificization and technicalization (Monajemi, 2018).

Theoretically, practically, and institutionally, public health is profoundly backward compared to medical sciences. These health sciences have been criticized as being atheoretical, divorced from their source of problems, theories, and applications (public health), the source of spurious, confusing, and misleading findings, and over-dependent on the 'black box' risk factor approach. Epidemiology proclaims itself as the foundation science of public health; however, rather than focusing on the applications of research, it has been too preoccupied with the design and methodology of research. Furthermore, the gap between public health sciences and public health practices may be widening as the designing and implementation of interventions in social and political contexts inevitably create tensions due to ill-structured health institutions (Bhopal, 2016).

Medicalization is a way to draw and maintain attention toward health issues

The medicalization of health is of importance as it is the way to fill in the gap between health and medicine (i.e., clinical). The process of medicalization of health problems means that medical diagnostics and managements are applied to non-medical (i.e., health) phenomena and experiences not previously within the conceptual or therapeutic scope of medicine (Goli, Monajemi, Ahmadzadeh, & Malekian, 2016).

Forcing people to take care of health issues by scaring them of getting sick and dying is like telling students that if you do not study well, you will end up in prison. In this view, health care systems are beeper systems. This is not to say that health systems have been retarded in nature, but that historical and social conditions have shaped the current situation. When health issues become medical issues, quick and accessible solutions must be provided for them, and sciences, practices, and the relevant institutions must be ready to provide solutions. Medicalization is simply using medical terminology and practice to solve a non-medical problem. This is the reason for overloaded clinical settings and growing health anxiety whenever we face a health problem.

Humanities and medicine should engage in a constructive and serious dialogue

On the one hand, human sciences scholars are ill-prepared/equipped and their contribution is usually confined to stating the obvious. It is surprising that despite the lack of any serious involvement with medical issues, they have high levels of confidence in commenting on matters beyond their expertise. On the other hand, whenever health systems get into trouble and there is no solution at hand, they turn to human sciences for a quick solution, unaware that in many cases the system itself is the problem.

Medical humanities form the genuine context for the dialogue between medicine and humanities. This is not a one-way street where only the humanities are supposed to reflect on and enrich medical practice, but medicine can also teach humanities a great deal; like the relationship between theory and practice, the structure of practical

science, the way of identifying and attacking problems, and etc. (Wieland, 2002). Human sciences and medicine should go back to their common roots as Foucault highlighted in The birth of clinic (Monajemi, 2020). The corona pandemic seems to draw increasing attention to medical humanities; however, without serious dialogue and research programs it may be "Much Ado About Nothing".

Conflict of Interests

Authors have no conflict of interests.

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