

Us and the virus:

Understanding the COVID-19 pandemic through a social psychological lens

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Abstract

From a social psychological perspective, the COVID-19 pandemic and its associated protective measures affected individuals' social relations and their basic psychological needs. We aim to identify sources of need frustration (stressors) and possibilities to bolster need satisfaction (buffers). Particularly, we highlight emerging empirical research in areas in which social psychological theorizing can contribute to our understanding of the pandemic's social consequences: Loneliness, social networks, role conflicts, social identity, compliance, trust, reactance, and conspiracy beliefs. We highlight directions for future social psychological research as the pandemic continues.

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The COVID-19 pandemic led to a surge of preventive measures to curb infection rates in many (European) countries. These measures directly or indirectly affected social relations (e.g., Jetten et al., 2020, van Bavel, Baicker et al., 2020) and thwarted basic psychological needs, such as maintaining positive relationships, making autonomous decisions, and mastering challenges. According to *Self-Determination Theory* (SDT; Deci & Ryan, 2000), need satisfaction is a determinant of human well-being and frustrated needs are likely to foster ill-functioning and stress. Bolstering need satisfaction might empower individuals to cope effectively with pandemic-related challenges (e.g., Cantarero et al., 2020).

Social psychologists have started examining how individuals are coping with the COVID-19 pandemic from a need-based perspective. Research aimed to identify sources of need frustration (stressors), possibilities to bolster individuals' need satisfaction (buffers) and to understand individual, societal, and political reactions to need frustration. Here we present a review of this emerging research field. We pursue three aims: (1) Identify relevant areas of social psychology that improve our understanding of stressors and buffers to need satisfaction as well as reactions to a pandemic. (2) Present social psychological theorizing in these selected areas, discuss how these relate to the pandemic and which specific predictions can be derived. (3) Review first empirical findings and show potential directions for future research. See *Table 1* for an overview of the reviewed topics, their assumed relations to basic psychological needs and related social psychological theories.

We have structured the following sections from a micro to macro level, moving from topics concerning the individual (loneliness) to social connections (social networks, families), identification with larger groups (e.g., organizations, institutions) to the societal scale (compliance, trust, reactance, and conspiracy beliefs). A comprehensive summary of all social psychological research on COVID-19 goes beyond the scope of a single review. Instead, the present contribution highlights exemplary topics emphasizing the importance of individuals' need satisfaction and contributions of social psychological research in this emerging field.

Search Criteria and Strategy

We conducted a literature search on *Web of Science* in November 2020 and February 2021, see *Table 2*. Given the novelty of social psychological research on the COVID-19 pandemic, we added selected high-quality pre-prints that came to our attention for example via *Google Scholar* or *PsyArXiv* to the current review (marked with *). For a full list of all reviewed studies see https://osf.io/d6q3p/?view_only=0d311565da4142e49554abeff36d7043.

Loneliness

Humans have an inherent *need for relatedness*. They desire to feel connected and to frequently interact with others (Baumeister & Leary, 1995; Deci & Ryan, 2000). Within the SDT framework, loneliness has been described as a frustration of the need for relatedness (Chen et al., 2015), resonating with the definition of loneliness as a discrepancy between actual and desired levels of interpersonal relations (Peplau & Perlman, 1981).

Limitations on social contact and physical distancing thwarted the need for relatedness and increased loneliness, as indicated by longitudinal studies from different countries conducted during the first lockdown in spring/summer 2020 (Heidinger & Richter, 2020; Stolz et al., 2021; van Tilburg et al., 2020; Krendl & Perry, 2021; Lee et al., 2020). Yet in some studies loneliness remained stable overall (Luchetti et al., 2020; Kivi et al., 2020; Okruszek et al., 2020), or even declined slightly (Folk et al., 2020). A recent meta-analysis also did not detect a general increase of loneliness (Prati & Mancini, 2021). As the harshness of lockdown measures differed between countries, there is no linear relationship between lockdown and loneliness. A diary study in Germany (Buecker et al., 2020) showed that loneliness increased during the first two weeks of the lockdown in spring 2020 but decreased thereafter. Ausín et al. (2021) reported only a slight increase in loneliness in a Spanish sample during a similar time period. In Austria, loneliness decreased during the gradual reopening in summer 2020 (Stieger et al., 2021; Stolz et al., 2021).

Moderating factors are important: Stronger increases in loneliness were associated with more COVID-19 related worries and personal losses (e.g., social contact, work and activities; Lee et al., 2020; van Tilburg et al., 2020), female gender (Lee et al., 2020; Ausín et al., 2021) and being a parent (Buecker et al., 2020; Harth & Mitte, 2020; see also section on role conflicts). Moreover, while living alone and having low social support was associated with more loneliness overall, some studies found a somewhat counterintuitive stronger *increase* in loneliness during lockdown for individuals living with others (vs. not) or reporting high (vs. low) pre-pandemic social support (Heidinger & Richter, 2020; Lee et al., 2020). Confounds or third variables may explain this finding. Alternatively, for individuals with strong social ties pandemic-related changes might be more consequential than for individuals used to being alone.

Similarly, older adults (60+) reported less loneliness and perceived support than younger/middle-aged individuals overall. Yet during lockdown, loneliness increased more strongly for older compared to middle-aged/ younger adults (i.e., time \times age interaction; Luchetti et al., 2020, Buecker et al., 2020). Four out of five longitudinal studies examining age and loneliness indicated an increase in loneliness for older adults (Heidinger & Richter, 2020; Luchetti et al., 2020; Stolz et al., 2021; van Tilburg et al. 2020). Only Kivi et al. (2020) found older Swedish adults' life satisfaction and loneliness to be stable over time; note that Sweden, unlike other European countries, did not implement a strict lockdown in spring 2020 (Yan et al., 2020). This stronger increase in loneliness might not be surprising: Older adults are more vulnerable to severe courses of COVID-19 and were thus particularly told to decrease their contacts in many European countries. Alternatively, younger adults might have relied more on social media to maintain social connections (see section on social networks below). Regardless of reasons, the increase of loneliness in older adults is concerning in the light of loneliness undermining psychological and physiological health and increasing

mortality especially in that age group (Courtin & Knapp, 2017; Gleibs et al., 2011, Hawkey & Cacioppo, 2003).

Recommendations: Due to the severe consequences of loneliness, examining longer trajectories of loneliness and associations with other negative consequences of the pandemic (e.g., anxiety or depression; Krendl & Perry, 2021; Lee, 2020) might be a worthwhile endeavor.

Social Networks

Closely connected to loneliness is research focusing on social networks and their protective power. Social networks are defined by the quality of interpersonal relations, whereas loneliness pertains to the perceived absence of those relationships. Accordingly, even individuals with small social networks might not feel lonely as their networks satisfy their needs. Social networks concern units like individuals, institutions, or cities (Wölfer et al., 2015) and can be based on affiliations, similarities, interactions, or resource distributions. Thus, humans seek social connections and build social networks of various forms to satisfy the needs of autonomy, competence, and relatedness (Deci & Ryan, 2000).

Social network theory (Dunbar, 1993, 2018) proposes that due to limited cognitive and emotional capacities, people entertain a hierarchy of layered sets of relationships ranging from very close circles (e.g., romantic partners) to more distant connections (e.g., loose acquaintances). These relationships differ in terms of contact habits, experiences of emotional closeness and expectations about social support (Dunbar, 2018). To maintain existing or create new social connections, people depend on their ability to perceive and understand others' mind states (e.g., others' intentions and emotions; Dunbar, 2018). This ability may be automatized when it comes to familiar circumstances (Schneider et al., 2017), but requires conscious effort in times of uncertainty and crisis (Apperly & Butterfill, 2009). Common biases of mental state interferences that unfold in moments of psychological stress – and in turn challenge the creation and maintenance of social connections – are self-centered views,

stereotypical thinking, overinterpretation of others' actions, or unusual emotional and empathic reactions (Schneider et al., 2019; see also sections on role conflicts, compliance, trust, reactance, and conspiracy beliefs).

Four studies across Europe investigated social network structures during periods of nationwide lockdowns in spring 2020. Studies from Austria (Nitschke et al., 2021) and Italy (Liotta et al., 2020) indicated that stronger network ties were associated with fewer COVID-19 infections and less mental health deterioration. Lower levels of stress, general and COVID-19 specific worries and fatigue (induced by sustained arousal) were associated with greater social connectedness during lockdown periods (Nitschke et al., 2021). Also, COVID-19 infections were higher among individuals aged >80 in Italian regions where people were socially less integrated (i.e., higher family fragmentation and available nursing home bed rate; Liotta et al., 2020). Studies from Switzerland (Elmer et al., 2020) and Denmark (Carlsen et al., 2021) investigated alternative ways to stay connected. For example, while students reported fewer interaction partners during the lockdown, friendship networks remained stable. Informational as well as emotional support even slightly increased, presumably via text messaging, video calls and social media (Elmer et al., 2020). Data from the US indicate an increase in social drinking via social networking sites, suggesting the establishment of new social norms during the pandemic (Cerezo et al., 2021).

The majority of social support was distributed through existing strong, rather than new or weak social network ties (Carlsen et al., 2021; Elmer et al., 2020); also, social support seemed to remain stable compared to before the pandemic (Prati & Manicini, 2021). However, social media seemed to be crucial in establishing new social connections for distributing informational and economic support, but also for organizing direct physical support (e.g., childcare, shopping for isolated individuals).

These studies suggest that tight embeddedness in social networks positively affects mental health and well-being even in times of reduced physical contact. Existing social

networks provide social and material support, thus serving basic psychological needs. Further, these studies highlight the increasing importance of digital communication during a pandemic.

Recommendations: The reviewed studies suggest that existing social network connections reorganize during a pandemic. Future research might investigate whether new social norms develop amongst various units of social networks (e.g., expectations to help the more vulnerable, higher proficiency in digital communication) and whether the contact reduction changes social networking capacities in general. Further, it remains to be determined which modern medium best mimics the neurocognitive facets that underlie real social interaction (Bzdok & Dunbar, 2020) and thus satisfies individuals' basic needs best.

Social (Inter-)Role Conflicts

Beyond the importance of social connections for individuals' well-being, social roles represent crucial mechanisms that satisfy basic psychological needs (e.g., Talley et al., 2012) and uphold psychological health. However, social roles may also be a source of need frustration and inner conflict (e.g., Bakker et al., 2005; Kahn et al., 1964), especially when they clash due to the various challenges during a pandemic. One of the most salient roles according to *Social Role Theory* (Eagly & Wood, 2012), is an individuals' *gender role*, that is, their (self-)stereotypes about what women and men are typically like. Traditionally, women took care of the household and children, whereas men provided food and money. Thus, women are seen as having higher social-emotional skills than men, while men are perceived as more competent and agentic (Park & Banchevsky, 2018). The pandemic might exacerbate existing gender imbalances (unequal division of paid and unpaid work or career opportunities).

Several studies examined whether and how the lockdown affected the division of household activities (Alon et al., 2020), career opportunities (Krukowski et al., 2020), and the psychological well-being of women and men (Harth & Mitte, 2020). Overall, the lockdown

was highly demanding, especially for families. Many parents worked from home, while trying to homeschool children and uphold a functioning family life (Bujard et al., 2020). This situation might create immense inter-role pressure (work vs. family) for parents, with one social role conflicting with others. The combination of caregiving roles, financial and emotional responsibility and work-related pressure seems a high-risk factor for reduced well-being (Liu et al., 2020) and burnout (Bakker et al., 2005). During the spring 2020 lockdown, parenting stress increased the use of harsh parenting (e.g., spanking, yelling, e.g., Chung et al., 2020). Harth and Mitte (2020) showed that during lockdown, parents, especially mothers, experienced greater inter-role conflict than non-parents and reported reduced emotional well-being, especially increased fatigue. This conclusion matches findings that women suffered more strongly from heightened insomnia, depression, and symptoms of mental disorders in response to the pandemic than men (Lin et al., 2020; Xiong et al., 2020). Importantly, men and women seem to cope differently with a pandemic situation. Fathers who experience inter-role conflicts between their caregiving and “breadwinner” roles evaluated the lockdown as more negative and reported greater fatigue than mothers with the same amount of inter-role conflict (Harth & Mitte, 2020), suggesting that men suffer more strongly from that conflict than women.

Recommendations: Flexible work arrangements during a pandemic offer the opportunity to change established gender stereotypes by creating new realities. In line with social role theory, male stereotypes might become more malleable with more men doing remote work, thus being able to spend more time at home and combining paid work with caregiving tasks. Independent of the opportunity to evolve existing gender stereotypes, policy makers and employers should acknowledge the burden of care work, as organizational support is the most important source to solve work-family conflicts (Oakman et al., 2020). Instead of solely focusing on barriers that hinder women’s advancement, it would be important to study the conditions of men’s underrepresentation in care-taking roles (see Croft

et al., 2015). In addition, future research may investigate how different social roles relate to different psychological needs and well-being.

Social Identities as Stress-Buffers

Another framework to understand need satisfaction and frustration during a pandemic is the *Social Identity Approach* (SIA; Tajfel & Turner, 1981). Building on relatedness and competence as fundamental needs, this approach predicts qualitative changes in cognition and behavior based on persons' self-definition as members of groups or social categories. The SIA has been adopted to investigate stress and well-being (Haslam et al., 2009; see Steffens et al., 2017, for a meta-analysis). Studies show that a shared social identity attenuates acute (e.g., Häusser et al., 2012) and chronic stress (e.g., Haslam et al., 2019), thereby emphasizing the role of relatedness as a stress buffer. Häusser et al. (2020) proposed three different pathways through which social identity buffers stress: First, a shared social identity is based on mutual goals and interests and increases mutual social support, which consequently increases collective self-efficacy (Junker et al., 2019). Shared social identity with different groups (e.g., friends, workgroups) might facilitate instrumental support (e.g., shopping for older people), emotional support (e.g., calling relatives during lockdown), and beliefs of collective efficacy in "fighting the pandemic together". Second, social identification shapes the perception of received social support. Particularly, social support is more likely attributed to benevolent motives when coming from ingroup compared to outgroup members (Haslam et al., 2012), making in-group support more effective in buffering stress (Frisch et al., 2014). Third, a shared social identity can alter appraisal processes (Lazarus & Folkman, 1984) by shifting perspective from an individual to a group level, implying increased perceived coping resources. Many appeals from politics and media emphasized that "we" are threatened by COVID-19 and that "we" are able to defeat it. This shift to the group level might, however, also increase perceptions of threat, because "we" are vulnerable to the pandemic in a different way than "I" am.

Taken together, from a theoretical perspective, a shared social identity is likely to act as a stress buffer against multiple COVID-19-related threats. Accordingly, first empirical studies showed that family identification was negatively associated with mental strain (Frenzel et al., in press) and reduced anxiety and symptoms for individuals with eating disorders (McNamara et al., 2020*). Providing insights into potential underlying mechanisms, pre-pandemic community identification predicted pandemic-related emotional support and self-reported adherence to behavior norms (Stevenson et al., 2021). Finally, national identification was positively associated with self-reported compliance to public health guidelines during the pandemic (van Bavel, Cichocka et al., 2020*). Because compliance to these guidelines is driven by mixed motives (e.g., protecting oneself, but also others), it could be seen as a form of mutual social support (see also section on compliance).

All reviewed studies were correlational. Thus, the relationship between social identity and threat might also be bidirectional. Mutual experience of threats may activate the need for relatedness and the desire to strengthen social bonds, resulting in stronger shared social identities (“*misery loves miserable company*”, Schachter, 1959; also *Tend-and-Befriend Theory*, Taylor et al., 2000, that is, stress activates affiliation and prosocial motives, as this provides resources for effective coping with the stressor). Early indirect empirical evidence suggests that experiencing COVID-19 as a threat might also increase identification. For example, Yam et al (2020) found a ‘rally around the flag’ effect in terms of stronger support for political leaders. Hence—as an optimistic outlook—a virtuous cycle of stronger ingroup identification, social bonding and support could emerge.

Recommendations: The reviewed studies used cross-sectional designs and therefore represents snapshots only. Future studies testing the stress-buffering effects of social identity during a pandemic may focus on longitudinal multi-wave designs to examine long-term trajectories and bidirectional effects. Moreover, the SIA has a very broad scope and might, therefore, be applicable to a range of social psychology phenomena associated with a

pandemic (e.g., adherence to social norms, collective action, cooperation, intergroup conflict, ingroup-favoritism, the self; see Jetten et al., 2020).

Compliance, Trust, and Reactance

Overall, especially at an early stage of the pandemic, people's compliance with mobility restrictions and distancing rules was high. In Germany, a majority endorsed the rules that were implemented in early April 2020, and almost 90% reported to comply (e.g., Gollwitzer et al., 2020; for similar results in other countries see Mækelaë et al., 2020). This contributed considerably to declining infection rates in April/May 2020 (Ferguson et al., 2020). But this compliance is fragile: A majority of Germans said they would not endorse a *long-term* lockdown (i.e., 8 months or more; Gollwitzer et al., 2020), and findings from the Netherlands suggested a significant decline in compliance between spring and summer 2020 (e.g., Reinders Folmer et al., 2020*).

What predicts individuals' compliance with mobility restrictions and distancing rules, and how can this compliance be maintained over time? *Interdependence Theory* (cf. Kelley & Thibaut, 1978) suggests that one of the most central psychological predictors for cooperation (in general) and rule compliance (more specifically) is trust – *institutional trust* (i.e., trust in authorities and institutions such as the government, science, the police) as well as *interpersonal trust* (i.e., trust that one's fellow citizens adhere to norms, too; see Balliet & Van Lange, 2013 for a meta-analysis).

Regarding *interpersonal trust*, findings show that people are likely to comply with the regulations if they feel that others do so, too. For instance, descriptive norms predicted compliance to regulations a few weeks later (Rudert & Janke, in press; see also Farias & Pilati, 2021*). Beliefs about others' willingness to comply with distancing rules mediate the effect of personality (trait-honesty/humility) on one's own compliance with these rules (Twardawski et al., 2021). Habitual distrust, measured via participants' victim sensitivity, explained antisocial behaviors during the pandemic, such as stockpiling (Fischer et al., 2021).

Findings regarding the role of *institutional trust* suggest a more complex picture. While some studies found strong relationships between trust (in the government) and rule compliance (Han et al., 2021; Twardawski et al., 2021) or, conversely, between distrust and non-compliance (Nivette et al., 2021), others found either no effects (Brouard et al., 2020), small effects (Raude et al., 2020; Rudert & Janke, in press; Van Rooij et al., 2020*), or more complex interaction patterns (e.g., Lalot et al., 2020; Schmelz, 2021; Woelfert & Kunst, 2021). These findings suggest that institutional trust is no guarantee for compliance. Even those who distrust political authorities may be motivated to “do the right thing” – if not for the sake of following rules, then at least to protect others and oneself (Liekfett & Becker, 2021; Pfattheicher et al., 2020).

Distrust thwarts relatedness needs and is one reason for non-compliance; reactance against state-imposed lockdown measures that challenge personal autonomy is another one. According to the *Theory of Psychological Reactance* (Brehm, 1966), reactance and devaluation of policymakers (Zhang, 2020) becomes more likely if there is social pressure, a (perceived) lack of legitimation of the source setting the limitations, high-pressure communication, and the actual possibility to restate freedom or control (Kavouris et al., 2021). The regulations represent stressors that are associated with reactance arousal and eventually, non-compliance (e.g., Díaz & Cova, 2021; Welter et al., 2021). Perceived risk, trust, fear-appeals, and normative demands further strengthen this effect (e.g., Sprengholz et al., 2021*).

However, the urge to burst out in reactance (“I want freedom”) can be cognitively “balanced” (see also Heider, 1946) in light of reality (“There is no chance for freedom”) by reappraising the situation instead of resisting. This reappraisal may lead to an adjusted information seeking and processing behavior (Knobloch-Westerwick, 2007), a change of attitudes towards the freedom restricting authorities (Zhang, 2020), and even appreciation of the measures themselves (Font & Hindley, 2017). A deeper, emotional barrier may also

channel reactance arousal. Whereas anger decreases information seeking and compliance (Valentino et al., 2008), anxiety may foster attention to political information and the motivation to learn about the pandemic and its cause. Hajek and Häfner (in press) found that emotional and cognitive channels buffering or catalyzing reactance arousal play a role in the reaction to the restrictions, towards compliance or resistance, and that reactance arousal negatively predicts attitudes towards policy-makers. Particularly, two factors are associated with the urge to restore one's freedom: (1) *Concrete and discrete fear*, buffering reactance arousal and enhancing positive attitudes towards the government. (2) *Unspecific concern*, abetting reactance arousal by stressing the value of freedom and cognitive dissonance. Unspecific concern is thus associated with more anger about the loss of control than fear.

Recommendations: Careful political communication is key to maintaining compliance. Particularly, explaining that behavioral measures are necessary, effective, and ethically mandatory might become more important the longer restrictions of people's autonomy continue. The specific role of institutional trust (in the government, science, the media, law enforcement, etc.), the (emotional) representation of the health threat (e.g., fear versus diffuse sorrow), and their interaction as mediators of the communication-compliance link warrants more detailed investigations (Akhtar et al., 2020).

Conspiracy Beliefs

In addition to declining compliance and increasing reactance, convictions grew that regulations are out of proportion and that the virus is not as dangerous as claimed by authorities. If that was true, however, the fact that nearly all governments restricted personal liberties requires an alternative explanation. Many of these "explanations" contained notions of conspiracies that a secret agent either invented the virus or exaggerated its danger to restrict personal freedoms and install a vaccination regime (intended to poison people or take control of their minds). Even darker speculations assumed the virus was more dangerous than officially claimed and had been created for malicious goals (e.g., reducing humankind in

number; de Rosa & Mannarini, 2020). Rising infection rates were seemingly paralleled by a rise in conspiracy theories, the “conviction that some people have secretly planned an action to harm others” (Imhoff & Lamberty, 2020a, p.193).

This “infodemic” comes to no surprise to researchers studying conspiracy beliefs, precisely because conspiracy beliefs are frequently attributed to thwarted needs, most prominently epistemic needs (i.e., competence) and existential needs for control (i.e., autonomy; Douglas et al., 2017). Epistemic needs are reflected in people’s desire to receiving a “big” explanation for an event perceived as “big,” like a global pandemic (Leman & Cinnirella, 2007). Existential needs for control are undermined when events are attributed to (uncontrollable) randomness (like a mutating virus). In contrast, conspiracy theories introduce non-randomness, provide a sense of control and epistemic certainty (i.e., knowing how things are). On the one hand, the idea of order and causality creates a feeling of *compensatory control* (Kay et al., 2009). On the other hand, conspiracy beliefs introduce the theoretical possibility of primary control, as evil actors can – at least in principle – be controlled, contrary to an “invisible” virus that is not fully understood yet. Thus, conspiracy beliefs are a plausible strategy to cope with uncertainty and control deprivation in extreme situations like lockdowns and crises.

Conspiracy beliefs have costly real-world consequences, such as a decreased willingness to accept vaccinations and other public health measures (Jolley & Douglas, 2014; Lamberty & Imhoff, 2018), or an increased likelihood of non-normative, violent measures to follow one’s political agenda (Imhoff et al., 2021). For instance, after the pandemic accelerated, 5G cell towers were vandalized in the US (Ankel, 2020), New Zealand (Pasley, 2020) and continental Europe (Cerulus, 2020). Support and hypothetical participation in such acts are associated with the belief that 5G radiation causes symptoms falsely attributed to COVID-19 (Jolley & Paterson, 2020). Conspiracy beliefs may also be directly involved in sabotaging effective curbing of infection transmission; arguably because conspiracy believers

presume themselves to be less vulnerable (Calvillo et al., 2020). Research established a robust correlation between the belief that COVID-19 is a hoax and hesitancy to engage in infection-reducing behavior, based on data from the US and the UK (Imhoff & Lamberty, 2020b; but see Biddlestone et al., 2020 for associations with social distancing, not hygiene), Germany (Betsch et al., 2020*), and Poland (Oleksy et al., 2021). The implied causal direction from conspiracy beliefs to behavior was corroborated by longitudinal findings (Bierwiazzonek et al., 2020; Pummerer et al., 2021).

Recommendations: Future research may adapt and evaluate evidence-based interventions counteracting public disinformation (Bago et al., 2020; Pennycook et al., 2020; Roozenbeek, van der Linden, & Nygren, 2020) to fit the specific topic of conspiracy beliefs. Specifically, interventions breaking conspiracy narratives in the public discourse need to be complemented by evidence-based recommendations on how to address conspiracy beliefs of friends and family (RND, 2020).

Conclusion

The reviewed literature highlights the importance of individuals' social connections and need satisfaction, both with regard to individuals' well-being and beliefs about the pandemic and compliance with pandemic-related regulations. On the positive side, social support and networks, shared social identities, and interpersonal as well as institutional trust provide a buffer against frustrations of individuals' relatedness or competence (e.g., loneliness, role clashes) and can uphold compliance with regulations. However, social connections can become problematic when they promote undesirable behavioral norms or conspiracy beliefs that promise to reinforce thwarted needs of autonomy and competence. Therefore, paying attention to those social factors is crucial in managing infection dynamics. When individuals' basic needs for relatedness, autonomy and competence/control are satisfied, they are possibly more likely to comply with pandemic-related measures (Martela et al., 2021).

Overall, the reviewed findings are largely in line with the respective assumptions derived from social psychological theories. Yet, several findings suggest the importance of distinguishing between different social groups (e.g., older and younger; men and women; parents and non-parents) to understand the broader impact of the pandemic for need frustration and need satisfaction at the individual and societal level. This is in line with research indicating that the general population may be relatively resilient to detrimental effects of the lockdown, however, this might not apply to certain subgroups (Prati & Mancini, 2021). It is further relevant to identify different coping mechanisms of those groups to design appropriate interventions and inform future regulations.

Two research areas may be of particular importance: First, infection rates and pandemic-related regulations differ between countries, yet most studies have focused on single countries. Country comparisons would be highly informative when designing and communicating new regulations in order to receive approval by the majority. Second, given that the COVID-19 pandemic will possibly prevail for a longer period and to be prepared for future events, it is important to investigate the trajectories of certain psychological indicators (e.g., loneliness, social network restructuring, compliance, etc.) over longer time spans (months, years).

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Table 1*Overview of the Topics, Relation to Psychological Needs and Social Psychological Theories*

	Topic	Theoretical Relation to Basic Psychological Needs	Related Social Psychological Theories
Stressors	Loneliness	Relatedness	Social Psychological Theory of Loneliness (Peplau & Perlman, 1981)
	(Inter-)Role Conflicts	Relatedness, Autonomy, Competence	Social Role Theory (Eagly & Wood, 2012)
Buffers	Social Networks	Relatedness, Autonomy, Competence	Social Network Theory (Dunbar, 1993)
	Social Identities	Relatedness, Competence	Social Identity Theory (Tajfel & Turner, 1981)
Reactions	Compliance, Trust, and Reactance	Relatedness, Autonomy	Interdependence Theory (Kelley & Thibaut, 1978); Theory of Reactance (Brehm, 1966)
	Conspiracy Beliefs	Autonomy, Competence	Compensatory Control Theory (Kay et al., 2009)

Table 2*Search Words and Refinements for Literature Research on Web of Science (WoS)*

Topic	Search Words (WoS)	Refinement
Loneliness	“loneliness” + “Covid” (in psychology social and multidisciplinary)	Focus on longitudinal studies with at least two measurement points, state loneliness and on general population
Social Networks	"social networks"/"social network"/"social connection"/"social connections"/"social connectedness" + "Covid 19" or "Corona pandemic"/"Corona"(in psychology social and psychology multidisciplinary)	Focus on work that explicitly studied the quality of social network connections and possible changes in network constellations for European populations only
Social (Inter-) Role Conflicts	“gender” and/or “gender roles” and/or “stereotypes” and/or work-family conflict + “COVID” (psychology social & multidisciplinary)	Focus on work that explicitly studied gendered patterns of inter-role conflicts (work/family).
Social Identities as Stress-Buffers	COVID-19 + Social Identity (+ Stress, strain, well-being)	Only studies related to stress, well-being, strain or potential underlying mechanisms (social support) were included.
Compliance, Trust and Reactance	Covid-19 + compliance + lockdown or distancing (social psychology, social sciences); COVID-19 + reactance (social psychology)	Compliance: focus on psychological predictors of compliance with lockdown / social distancing rules
Conspiracy Beliefs	“Covid” + “conspiracy” (in psychology social)	Focus on studies that report associations of conspiracy beliefs with behavioral intention or reported behavior