



Short Reports: Positive Psychology's Contribution to Recycling in the UAE

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Abstract: Actions from governments, industry and citizens are needed to combat the looming threat of climate change. Sustainable lifestyles that include actions like recycling are habits individuals will need to adopt going forward. Yet, despite the available infrastructure and education to enable action, reports suggest that few people engage in the necessary acts. Finding solutions, especially ideas that implicate psychology, will be needed if behavior is to be influenced. This study explores recycling behaviours in the United Arab Emirates (UAE). A survey was completed by 55 university students and revealed that despite agreeing that recycling was important, few recycled. Our results also revealed that respondents were not convinced that their actions yield benefits. We offer suggestions from the positive psychological literature towards closing the gap between intention and behavior. For example, individuals may be more likely to recycle if the notion of doing so meets psychosocial needs, such as that gained from maintaining a positive Islamic identity, or feeling positively.

ملخص: توجد حاجة ضرورية لإتخاذ إجراءات من قبل الحكومات ورجال الصناعة والمواطنين لمكافحة التهديد الذي يلوح في الأفق لتغير المناخ. وتشمل أنماط الحياة المستدامة التي تتضمن إجراءات مثل إعادة التدوير، وترشيد استخدام المياه (تقليل استهلاك المياه)، سيحتاج الأفراد إلى تبني مثل هذه العادات وإعتمادها في المستقبل. وعلى الرغم من توفر البنية التحتية وانتشار التعليم للقيام بذلك، تشير التقارير إلى أن قلة من الناس يشاركون في الأعمال المطلوب القيام بها. لذلك سيكون علينا إيجاد الحلول، خاصة الأفكار المتعلقة بعلم النفس والتي تؤثر في السلوك. تستكشف هذه الدراسة أحد هذه الإجراءات؛ وهو إعادة التدوير في دولة الإمارات العربية المتحدة. فقد تم تطبيق استطلاع للرأي على 55 طالبًا جامعيًا وكشفت النتائج أنه على الرغم من الاتفاق على أهمية عملية إعادة التدوير، إلا أنها تتم بشكل قليل فعليًا. كما كشفت نتائجنا أيضًا أن المشاركين في الدراسة لم يكونوا مقتنعين بالفائدة التي تعود عليهم نتيجة أفعالهم. لذلك نقدم اقتراحات من خلال الأدبيات المتعلقة بعلم النفس الإيجابي بهدف سد الفجوة بين النية والسلوك. على سبيل المثال، قد يكون الأفراد أكثر إعجابًا وقيامًا بعملية إعادة التدوير إذا كانت تلبي الاحتياجات النفسية والاجتماعية لديهم، مثل تلك الحاجات المكتسبة من الحفاظ على الهوية الإسلامية الإيجابية، أو الشعور بإيجابية.

Keywords: recycling; positive psychology; intention-behavior gap; identity; positive emotion

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The Intergovernmental Panel on Climate Change (IPCC) report was released in 2021 and served as a wake-up call for urgent action in curbing global greenhouse gas emissions and reduce the impact of climate change (United Nations' Office for the Coordination of Humanitarian Affairs (OCHA), 2021). One of the many contributors to slowing climate change and reducing the production of carbon dioxide and other greenhouse gas emissions is to improve recycling globally. Nearly 2 billion tons of waste are produced annually by humans alone and which accumulates in landfill sites and produces toxic chemicals upon decomposition (MINIWIZ, 2021; The World Counts, n.d.). Still, despite hundreds of opinion polls, surveys and studies asking individuals if recycling is impactful towards climate change, there remains a significant intention-behavior gap; that is, a discrepancy between what individuals report caring and knowing about, and actually doing. This gap has been reported across countries and a range of sustainable actions (e.g., ElHaffar et al., 2020; Nguyen et al., 2019; Park & Lin, 2020), including recycling (AlHaj Ali et al., 2021; Echegaray & Hansstein, 2017; Linder et al., 2021; Wang et al., 2021).

Although reversing the effects of climate change is no longer possible, mitigating its effects continues to be vital (Clayton, 2020; Tam et al., 2021). While recycling plays a small role in the moderation of climate change (e.g., Crunden, 2021; Markle, 2014), the psychological mechanisms around attitudinal and behavior change are critical to investigate as they underlie other sustainable action. Accordingly, positive psychology, including other branches like social and environmental psychology, are hard at work to understand the motivations, attitudes, behaviors, habits and perceptions, as well as the consequent nudges and communications industry, governments, and individuals can harness to make sustainability “stick” (Nielsen et al., 2020; Wallis et al., 2021). Several journal issues on climate change related topics have been recently published to this effect (i.e., *Current Opinion in Psychology* (v. 42); *Journal of Anxiety Disorders* (v. 76); *European Psychologist* (v. 26); *Health Psychology Review*, forthcoming, 2022).

Recycling and Waste in the UAE

The Sustainable Development Goals (SDGs) include 17 distinct goals compiled by the United Nations in a bid to encourage and hold accountable countries to a range of targets by the year 2030. These include ending poverty, building states of physical and mental wellbeing, as well as encouraging responsible consumption and production, and engaging in climate action, among others (United Nations Development Programme, n.d.). In response, the government of the United Arab Emirates (UAE) launched its ‘UAE Vision 2021’ aimed at improving sustainability in the region by implementing national goals in many of these areas addressing water scarcity, clean energy production, and waste production and treatment (UAE Vision 2021, 2018). To align with these, efforts have been introduced nationwide to improve recycling infrastructure and its usage. The Dubai Municipality Waste Management Department for instance, has set a 100% recycling rate target by 2030 (Gulf Environment & Waste FZE, 2021b).

These goals are important given that Gulf Cooperation Council (GCC) nations like Kuwait, Bahrain and the UAE generate more than 1.5 kilograms of waste per person on a daily basis, with this figure expected to increase two-fold by the year 2050 (Underwood, 2019). Other studies suggest there is an untapped potential for greater recycling in the UAE, as a mere 4% of the 1.5 kilograms is currently recycled (Gulf Petrochemicals and Chemicals Association, 2020). By 2017, the UAE



was reportedly one of the biggest waste producers in the Middle East, with estimates of nearly 29 million tons of waste produced in that year alone, of which only 20% was recycled. During the World Energy Summit held in the UAE's capital this year, it was revealed that the current waste generation stands at an average of 2.0 to 2.5 kilograms of waste produced per person on a daily basis (ACTEnviro, 2021), of which 77% finds its way into landfill sites (Global Recycling, n.d.; Gulf Environment & Waste FZE, 2021a; Tieso, 2020). These are lost opportunities as the economic gains which stem from recycling, in addition to meeting employment targets through new jobs created to support it, would be a significant source of revenue for GCC nations (Ozeir et al., 2020).

It is not only about sustainable actions, but living more sustainably as a whole that is the overall target. A survey by Hildebrandt et al. (2021) of over 6000 GCC consumers showed that while the threat of climate change was perceived to be important (from 81% in the UAE to 52% in Kuwait), 80% to 95% of respondents were willing to start living more sustainably or already doing so. Yet, the rate of plastic and metal waste recycling in the region stands at a mere 10%, versus the global average of 32%. When asked about barriers to taking action, respondents reported that sustainable living was more expensive, and there was a lack of information, as well as few opportunities to take part in sustainability actions. The social pressure to maintain a materialistic lifestyle and the potential for a poorer quality of life via sustainable living were also noted. Others were not convinced of the quality and status of sustainable products, considering them to be low and detrimental to their lifestyles.

While the discrepancy between the amount of waste produced and that which is recycled may be due to many factors, there is also a lack of understanding of where recycled items go, what is done with them, and what impact recycling has on climate change (Venkatesan et al., 2021). A study in Sharjah (UAE) (AlHaj Ali et al., 2021) showed that while a majority of respondents had positive attitudes towards recycling, 76% lacked knowledge about its exact purpose or benefits, almost half (48%) used the recycling bins for general trash, and only a mere 16% reported "always recycling". The authors identified that while university students had the highest levels of knowledge about recycling, they also recycled the least of all age groups. Other reasons like trust, might also underlie low rates of recycling. Media stories have exposed unscrupulous players in the industry throwing waste into landfills when earmarked to be recycled (e.g., Albeck-Ripka, 2018; Sullivan, 2020), undermining the willingness of individuals to recycle, or their ability to see the connection between what their actions and climate change. As such, tackling climate change through a range of sustainable actions, like recycling, depends on the behavior and perceptions of individuals and societies (Nielsen et al., 2020), making psychology a valuable addition to this inquiry.

The Present Study

Recycling is not a straightforward action. It demands willingness, a perceived need and benefit to doing so, as well as effortful action. In this exploratory study, our aim was to explore the gap - if any - between intentions and actions and propose potential solutions gleaned from the positive psychology literature.

Methodology

We developed a survey consisting of 16 questions to better understand local recycling knowledge and behavior. A total of 55 respondents, all from Dubai, UAE, answered the survey; they



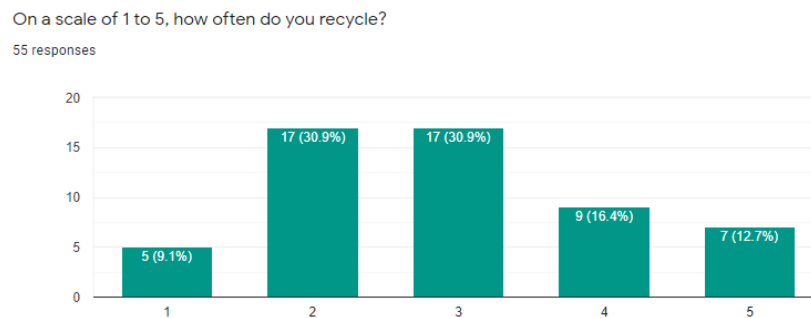
were largely university students aged 17 to 30 and represented a range of nationalities, as is the case in the UAE, which has more than 85% expatriates.

Results

When asked how concerning the subject of recycling was to participants from a scale of 1 to 5, 1 being “not concerned at all” and 5 being “extremely concerned, a majority of respondents (41 of 55) chose options between 3 and 5, suggesting the majority felt concerned. In contrast, when asked how many of them actually engaged in recycling, 40% reported not recycling at all, while 60% did to varying degrees (see Figure 1), responding between 3 (recycling sometimes) and 5 (very often).

Figure 1

How often do you recycle?



When participants were asked why they recycled, significant numbers (40% and more), identified that it made them feel better, helped minimize climate change, and reduced the space being used in landfills by products that could be recycled. Further, about 50% felt it was convenient to recycle, but 25% said it was not, with the remainder offering a neutral value, i.e., neither good, nor bad. At the same time, when asking why participants chose not to recycle, almost 50% (25) said recycling boxes were too far, while 16% (9) believed recycling did not meet its aims in the country. Additionally, 36% (20) replied with answers such as, “I don’t care,” or “I don’t believe one person can make a difference”. Finally, in asking about awareness of recycling initiatives in the country, two participants reported not being aware of a single one, with the rest acknowledging from a list of initiatives, at least one or more.

Discussion and Implications for Closing the Gap

Our findings showed that recycling was considered important, however, this was not met with the same zeal for its activity. Further, responses also revealed inconsistencies, i.e., 25% said it is inconvenient to recycle, but when asked why they did not recycle, double the amount (50%), claimed it was not convenient. At the same time, responses were also honest, with one third noting they did not care or believe recycling made a difference.

While a number of respondents reported recycling, we were nonetheless unable to verify this fact and it is possible that respondents merely wanted to feel like good people in saying so (i.e.,



Brenner & DeLamater, 2016). While our number of respondents was also small and included only university students, it nonetheless demonstrated the intention-behavior gap, which calls for resolving. Going forward, if climate change is to be meaningfully tackled, more than a recycling bin or information poster is needed. Accordingly, we put forward ideas from the literature in positive psychology for researchers and policy makers to consider, and which include attention to design, emotion and identity, as well as attention to communication, awareness and infrastructure.

Positive design. Research suggests that the shape of an object can influence a user's decision to recycle. Studies (Trudel & Argo, 2013; Trudel et al., 2016a) show that products holding their aesthetic appeal were more likely to be recycled as they continued to hold value for the user or in and of itself. For instance, full sheets of paper were more likely to be recycled as they were considered intact and useful; yet, smaller bits of paper that had been torn or cut up were likely to be trashed given their lack of usefulness, despite both examples being recyclable. The same was observed for aluminum cans; dented ones were trashed whereas intact and unblemished ones were recycled. Trudel et al. (2016b) suggest that damage resistant product packaging could unexpectedly boost recycling more than temporary, minimalist packages of lower perceived value. Incorporating positive design tenets (Desmet & Pohlmeier, 2013) into product packaging could also help, such that when individuals consume products that generate positive emotional experiences, purposeful significance, and allow individuals to act on virtuous character and take moral action, they value them more greatly and want to give products second lives through recycling.

Identity. How individuals define themselves in terms of the larger groups to which they belong and can be motivated to act on prevailing groups norms to conform, belong and feel good about themselves, has been the subject of much work (see Mackay et al., 2021). A 'Positive Islamic Identity' (PII; Pasha-Zaidi & Odeh, 2019), where group belonging, psychological wellbeing, and participation in positive faith-based activities are promoted as a route to nurturing the soul, is one example. As the International Islamic Climate Change Symposium released a declaration which encouraged the global Muslim community to be a positive force towards climate change (Batchelor, 2015), Muslims are reminded that Allah created the world and demands its protection (Sa'at, 2021). They are also asked to abide by Islamic teachings and exercise moderation in their consumption: "Children of Adam, take your adornment at every place of prayer, eat and drink, but be not excessive - Indeed Allah likes not those who commit excess" (Surah Al-A`raf, 7:31; Arshad, 2018). Developing a positive Islamic identity via communication measures that combine sustainable action with Islamic precepts can mobilize individuals to recycle, contribute to their community's wellbeing and fulfill spiritual duties. It can also enable a sense of collective efficacy where the group can meet larger goals than individuals alone.

An example of leveraging identity and self perceptions in the case of recycling can be found in China (Strategy&, 2018), where recycling bins were labelled by IQ score bands. Social pressure to appear intelligent meant citizens were more likely to choose the publicly visible high-intelligence recycling boxes with more complex sorting standards than those marked with lower IQ scores. City-wide recycling targets were met within hours. Locally, appealing to one's sense of religiosity, duty, and morality, as well as the public need to be seen fulfilling one's religious and communal duties could be just as strong a motivator, especially when incentivized by earmarked recycling bins that register recycling amounts as a form of zakat for its users.



Positive emotion. In the context of climate action, negative emotions like guilt, fear, shame and anxiety have been the target of successful intervention (e.g., Amatulli et al., 2019; Feldman & Hart, 2018; Muralidharan & Sheehan, 2018). More recently, in positive psychology, the role of positive emotions is growing as they too, contribute to socially responsible action. Positively valenced campaigns for example, can increase the willingness to act pro-environmentally, and instilling hope, optimism, gratitude and pride are motivators when combined with clear pathways for action (e.g., Chatelain et al., 2018; Schneider et al., 2017). Finding ways to deliberately elicit positive emotion and feeling like a good individual as a result of taking sustainable action are other means. Sun and Trudel (2017) showed that participants who recycled frequently felt more positively and less guilt over wasteful consumption; this was the case with our respondents who also reported feeling better as a result of recycling. Venhoeven et al. (2020) further revealed that “going green” also elicited meaning and a sense of purpose. Highlighting the emotional consequences of sustainable action may be a useful addition to marketing campaigns; yet, reviews (i.e., Hornsey & Fielding, 2020; Schneider et al., 2021) issue caution. Feeling overly positive about climate change action can paradoxically lower the perception of risk, or backfire and produce reactivity.

Infrastructure and communication. The role of communication and infrastructure should not be discounted. Indeed, the best of recycling intentions can be undermined if facilities are not convenient and users must put in significant effort and resources to reach them (i.e., car travel, petrol, toll taxes) (e.g., DiGiacomo et al., 2018; Linder et al., 2021; Osbaldiston & Schott, 2012). Indeed, almost a third of GCC respondents cited a lack of infrastructure as one of the main reasons for not recycling (Hildebrandt et al., 2021). Efforts to increase it may do well to harness the power of location and convenience to circumvent the intention-behavior gap, such that individuals have no decision to make (or excuse to give), as their physical setting allows for no other alternatives (Linder et al., 2021).

Finally, and consistent with Venkatesan et al. (2021), our results suggest there is scope for better communication and marketing efforts by governments, as well as corporations, including recycling companies themselves to more effectively promote pro-environmental behavior that directly ties recycling with climate action as well as demonstrate with evidence, that individual actions add up collectively. Gamifying recycling bins and including meters, counters or other means through which individuals can visually see and understand that what they do keeps kilograms of waste out of the Gulf and preserves local fish stocks, helping to keep the restaurant industry in business, as an example. Continuing to raise awareness around recycling is still vital. Indeed, consumers are more likely to recycle when they are informed into what product their waste can be converted (Winterich et al., 2019), suggesting that dialogue on recycling needs to become more sophisticated. At the same time, despite education on climate change, Hildebrandt’s (2021) GCC survey showed that 35% of the overall sample, and 49% of 18- to 24-year-olds, had either never heard of the term carbon footprint, or were unsure of its meaning. Thus, more and better communication on the what, why’s, and how’s of sustainable living are sorely needed in educational institutions, as well as industry.

Conclusion

World leaders are currently tackling climate change adversities, but they cannot overcome these challenges alone; human action is critical (Lee et al., 2019; Nielsen et al., 2020). Yet, while more awareness helps, it is not enough. Using psychological science to address human inaction must



be the way forward as the IPCC (2021) has made it clear: there is no time to waste and no more excuses to make. Countries in the Gulf region, including the UAE, have made several climate action commitments, and also have the resources, political will and popular support to enable movement towards these national and global goals. Harnessing positive design, as well as positive emotions and the opportunity to do good via a positive Islamic identity that embodies sustainability within an Islamic framework can harness the behaviors needed for greater recycling. However, these actions must not only be targeted at sustainability, but become part of the region's blueprint for sustainable happiness as a whole (O'Brien, 2012), whereby individuals perceive, experience and create greater quality of life through sustainable living. Given the work currently underway in psychology and other fields, we are confident solutions can be reached that leverage human psychological needs as much as human ingenuity in tackling the world's biggest challenge.

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